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The OIL WEEKLY

OIL and GAS ENGINEERING

FOR OIL AND GAS PRODUCTION AND PIPE LINE DIVISIONS

THE WEEK'S NEWS INTERPRETED

ume 66 JULY 4, 1932 Number 3

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PROGRESS

If in these difficult times you feel yourself yielding to the wave of despair that has engulfed the world, we urge you to go back with us in spirit to the *first* Independence Day.

1776 . . . Three and half million hardy souls laying the foundation for a new and mighty nation. Determined men wresting from forbidding forests the sites on which many a thriving metropolis is to rise and grow. Farmers toiling from sunup to sundown—and seeking relaxation in the dreary recesses of candle-lit cabins. The tortuous travel of ox-cart and stage coach—the rigors of merciless winters—and then, to top it all, the added burden—willingly assumed—of a major war!

Were those men to return on this Fourth of July, what camera could record their amazement at the miracles which the years have wrought? Automobiles that translate the "Carpet of Bagdad" from fable to fact . . . tractors that lift the heaviest burdens from the back of the farmer . . . electricity that changes night into day . . . telephones that bring distant voices to our ear . . . airplanes that annihilate distance . . . radios that bring into our living room the finest entertainment that the world affords.

And if we told these men our troubles, we don't doubt that they would listen with an attentive ear; but we wonder whether, as they listen, there wouldn't be about their lips the shadow of a smile!

The Halliburton organization has, since its inception, been guided by the traditionally American spirit of progress. It is this spirit which has been responsible for the scores of developments and discoveries that have come from the Halliburton laboratories—this spirit, too, which gave birth to the three major developments announced early this year—Full Hole Cementing; Cement Lining for screens and perforated pipes; and Multiple Stage Cementing. Because these developments are likely to make drilling history, we urge you—if you have not already done so—to ask us to tell you more about them.

HALLIBURTON
OIL WELL CEMENTING CO.
Duncan, Oklahoma

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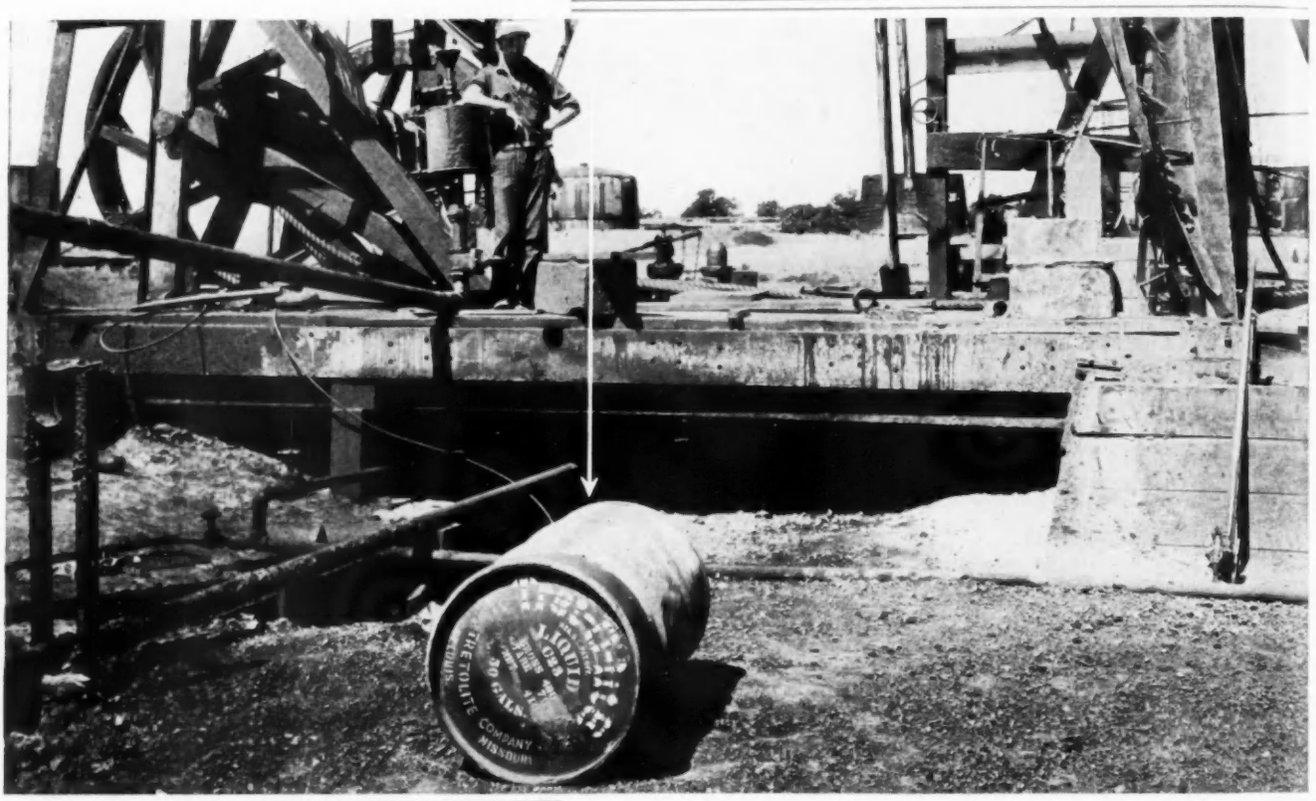

In the oil fields throughout the world the TRETOLITE process is an indispensable factor in the preparation of crude oil for pipe line requirements. The millions of barrels of oil recovered from petroleum emulsions at a low cost per barrel proves the value of TRETOLITE.

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TRETOLITE COMPANY

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DALLAS . . . LOS ANGELES

REPRESENTATIVES IN ALL PRINCIPAL FIELDS

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THIS all-steel Parkersburg pumping outfit, specially designed for the solution of any production problem, consists of Type "M" steel Band Wheel, steel "A-Frame" Sampson and Jack Posts, Type "HB" steel Pitman and Type "IE" steel Walking Beam.

Walking Beam—Heavy 24-inch steel section fabricated by welding. Designed so that all bearings are in line.

Sampson Post and Jack Post—Of structural steel shapes, both riveted and welded for rigid assembly.

Bearings—Are self-lubricating, oil reservoir type; interchangeable at Pitman Stirrup and Polish Rod Hanger ends.

Center Irons—Regular type as illustrated or self-lubricating, oil-tight bearings adjustable in both horizontal directions can be supplied.

Pitman—Sturdy steel H-beam stem section, riveted and welded; patented self-aligning bearing with "boomer" for quick engagement or disengagement.

With a Rig that Gives Continuous Service

PROBLEMS incident to pumping deep wells have been attacked vigorously by Parkersburg Engineers and the above unit represents the solution for any production problem.

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This rig is making pumping history with its sound, engineering design. Every unit is carefully designed to meet its particular duty—and does it. It may be just the rig you need for effective, continuous, trouble-free operation.

Parkersburg offers a type of pumping equipment for every well and every pumping condition; whether it be a Standard Rig Installation, a Chain Driven Pumping Rig or a Ruf-Nek Geared Unit, you will find a type of Parkersburg equipment for your particular problems. To standardize with Parkersburg pumping equipment assures profitable production.

For complete details and prices consult a Parkersburg representative, or our District Offices at Dallas, Houston, Tulsa and New York, or write the Main Office at Parkersburg, West Virginia.

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This Seal of Quality and Service on Parkersburg Equipment is Your Guarantee.

THE PARKERSBURG RIG AND REEL COMPANY

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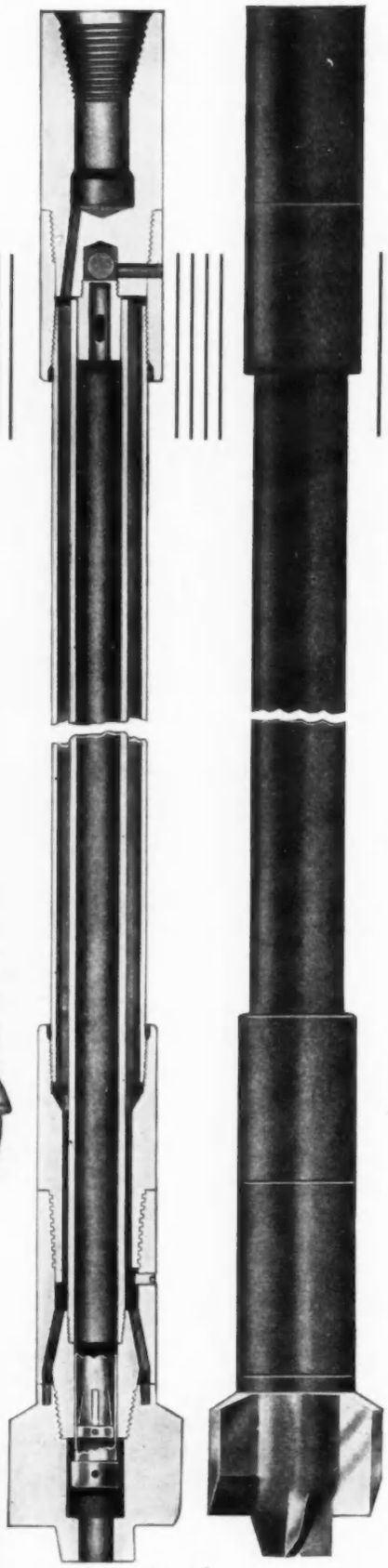
By use of the Type M Bit Body ROLLER CUTTER HEADS can be used with the Perfection Core Barrel.

Barrel equipped with Roller Bit

Type "M" Cutter Head



Automatic Core Barrel

Patent
No. 1,505,346

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This automatic feature consists of a means of washing the inner barrel clean. The water is allowed to pass through this barrel until all foreign substances are washed out; when the operation of coring begins the ports in the inner barrel are automatically closed, allowing the fluid to pass around the inner barrel to the bit.

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These features are very desirable and fill a long felt want where soft sand and other coring is necessary.

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The Brewster COMPANY~INC.
Shreveport, Louisiana

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THE OIL WEEKLY

July 4, 1932
Vol. 66, No. 3

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Published Weekly by
THE GULF PUBLISHING COMPANY
HOUSTON, TEXAS

S. W. ROBINSON
Editor

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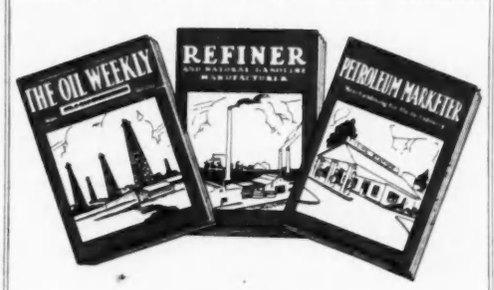


SPECIALIZED OIL JOURNALS

Published by

THE GULF PUBLISHING COMPANY

R. L. DUDLEY, *President*
A. L. BURNS, *Gen'l Manager*
S. W. ROBINSON, *Editorial Director*
J. KENT RIDLEY, *Managing Editor*

NEW YORK: Room 323, 250 Park Avenue,
Dick Swinsky, Manager.

PITTSBURGH: 1407 Park Building,
W. W. Pigue, Manager.

CHICAGO: Room 1235, 141 W. Jackson Blvd.
O. R. Waller, Manager.

LOS ANGELES: 416 Haas Building,
W. E. Green, Manager.

TULSA: 913-916 Hunt Building,
J. F. Carter, Jr., Manager.

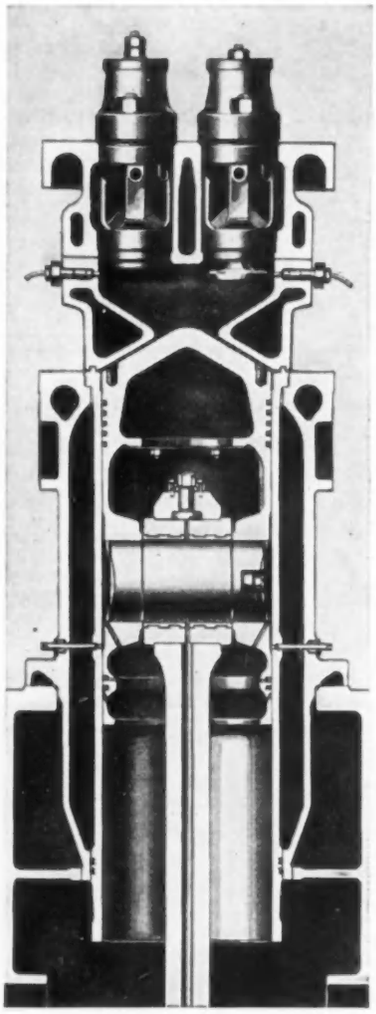
FORT WORTH: 203 W. T. Waggoner Building,
H. H. King, Manager.

Issued Monday of each week. Single copies 15 cents. Subscription price: Domestic $1.00 a year, Foreign $1.00 a year. Entered as second-class mail matter December 23, 1916, at the post office at Houston, Texas, under act of March 3, 1879. Subscription restricted to those engaged in the producing and pipe line branches of the oil business or the manufacture and distribution of oil field supplies. Advertising rates on application.

REASONS *for* DE LA VERGNE SUPERIORITY

THE CYLINDER . . CYLINDER HEAD ASSEMBLY

Soundly Engineered with a Marked Simplicity that Ensures Reliability



The modern De La Vergne Diesel's cylinder and cylinder head design emphasizes the careful engineering which has earned for this engine the reputation of being the most highly developed Diesel ever built.

The cylinder housing and the liner are separate members. The liner is arranged for free expansion and contraction, independent of the cylinder housing. The water jacket is so proportioned as to provide correct volume of water and velocity of flow for adequate cooling. The ling liner—carried further down than usual—with excellent conditions for heat transfer, thus insures good piston cooling.

The liners themselves are made from hard, close-grained Elfur iron and specially heat-treated for their particular service. They are machined externally and ground and counterbored internally—an essential feature of finish.

The cylinder head is made in two sections, remarkably simple in construction—the upper section containing the valves and the lower, the water jacketed combustion chamber, containing the two fuel injection nozzles. These nozzles, requiring no mechanical operation, are accessibly arranged in either side of the head and inject fuel across the combustion chamber and not in the direction of the piston. Hence, De La Vergne pistons are not subjected to a hot flame jet during the period of injection.

Cooling water is introduced into the water jacket surrounding the combustion chamber at high velocity for effective cooling and to prevent the accumulation of scale.

Several hand holes in cylinder housing and cylinder head afford easy access to the water jackets for inspection and cleaning.

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JUL 5 1932

VOLUME 66, No. 3 ©CIB 159688 JULY 4, 1932

THE OIL WEEKLY

FOR OIL AND GAS PRODUCTION AND
PIPE LINE DIVISIONS

ENGINEERING • NEWS • STATISTICS

The Changing Panorama

On a poll of the delegates from East Texas, the Texas Railroad Commission has revised its order regulating East Texas production, so that the rule of holding the maximum output to 325,000 barrels daily will be in effect after July 15. There is still a minority that contends for a flat per-well figure, on the theory that the continued reduction of well averages by adding more wells will reduce revenue below the reducible. The rush of drilling, meanwhile, continues. Trouble seems to be that some operatorss who ought to be considering ratio and proportion must have had their schooling stopped at common fractions. It is all too obvious that too many wells on the present maximum recovery basis will reduce the volume allowed below profitable levels, or if the per-well basis obtains, the flood of oil will lower the price. Answer apparently is to stop drilling so many wells, and this is the angle from which the commission will approach the matter after the primaries in July. But on the matter of revenue, all the East Texas wells produce when drilled, while across the line in Louisiana the Zwolle "hot spot" is not so sure, the recovery is not large and taxes are higher. Page 10.

Oklahoma City operators are not sure what Governor Murray means in his latest order sending the soldiers into the field, and Cousin Cicero, who helped write the order, is not definite that he understands it either. The point is that somebody will say how much oil to produce—is it the governor or the corporation commission? While they wait for the governor to get back from running for president, big times are anticipated at a contemplated hearing before the commission. Page 10.

The biggest single project—or at least so far as the appeal to the imagination—is Iraq. Much has been said about this venture, many details of which are obscure, which makes a review interesting. How big will it be when the line is completed in 1936? Page 11.

ELECTRIC EAR USED FOR ANTI-KNOCK ROAD TEST

A new method being used by engineers of the Tide Water Oil Company for testing gasolines for anti-knock values under actual operating conditions.

While the Edwards Limestone, productive notably in the Luling area, is the most important oil source in the southern portion of Central Texas, serpentine plugs and shallow sands also demand notice. Further, recent wildcat work points the possibility of development of production in the general vicinity from Pennsylvania or Ordovician formations. Producing spots in this area are all shown to have relation to the Balcones Fault, originally famous for its influence at Mexia. Production statistics on the area start from 1915 and became important in 1924 after which there was a slump until 1930 which was the most prolific year for the section. The following year recorded a drop in output, but activity now indicates continuation of an important recovery. Page 23.

Corrosion Control

Corrosion is one of industry's greatest problems and a big help to the steel business. In the matter of oil storage, the subject of destruction of tanks has been given much study, much has been accomplished, but the end sought has not been reached. It is too much to expect that all corrosion troubles will ever be ended, but there are ways to reducing the damage. Simple rust from air action can be minimized by protective coatings, but the more insidious destruction of the tank metal by waters and chemicals accompanying crude oil brings on more talk, and ordinary earth in some spots also complicates the problem. Study of the problems continues with a disposition on the part of the engineers investigating to share their discoveries, so that periodic reports of progress are both interesting and profitable.
Page 30.

The Oil Man's Calendar

AUGUST

10 *Tennessee Oil Men's Association, Nashville, Tennessee.*
22-26 *American Chemical Society, Denver, Colorado.*
23-26 *Pacific Coast Gas Association, Spokane, Washington.*

SEPTEMBER

10-17 *Society of Automotive Engineers, Cleveland, Ohio.*
14-16 *National Petroleum Association, Atlantic City, New Jersey.*
Last Week *Ohio Petroleum Marketers Association, Columbus, Ohio.*

OCTOBER

1 *American Institute of Mining and Metallurgical Engineers, Petroleum Division, Dallas, Texas.*
3- 7 *National Safety Council, Washington, D. C.*
4- 6 *Society of Automotive Engineers, Transportation meeting, Toronto, Canada.*
10-14 *American Gas Association, Atlantic City, N. J.*
11-12 *Kentucky Petroleum Marketers Association, Louisville, Kentucky.*

NOVEMBER

10 *California Natural Gasoline Association, Los Angeles, California.*
15-17 *American Petroleum Institute, Houston, Texas.*

DECEMBER

Rocky Mountain Oil and Gas Association, Great Falls, Montana.
5- 9 *American Society of Mechanical Engineers, New York.*

Simple Surveying

One of the difficulties attendant upon surveying crooked holes has been that it is comparatively simple to learn that a hole is not straight, but the direction is another matter. The art has been well advanced with scientific apparatus, but sometimes such is not available when needed. Then with the aid of a surveyor's transit, it is possible to orient holes. It is a little complicated but those familiar with the process claim it is simple. Page 28.

As a Twig Is Bent

Conroe operators are being told early what their rules will be, and they are accepting them gracefully. Such procedure in other sections would have saved the Texas Railroad Commission and some others a whole lot of embarrassment. This new area has some promise of being a really important oil field, in which event spacing, casing and other rules will be a welcome control; if the promise of extensive production does not materialize, the rules will have done no harm. In the meantime two wells in Montgomery County are being watched with interest and their successful completion will result in substantial extension of drilling activity. Page 49.

Glorious Fourth

Last reports found the industry as a unit still uncertain about the federal gasoline tax which was effective June 21—lawyers were trying to advise how to pay it. Some marketing companies had increased the price to include the tax while others apparently are waiting to use up the stock on hand. In the meantime it was anticipated last week that big business is ahead for the filling stations over the holiday which will be prolonged by having the Fourth on Monday.

Not everybody in California was happy after the price increase, but the big majority was pleased. Producers of light oil averaged better in the new postings, and the heavy oil boys think they have not been done right by. On the whole though, the situation is much improved and more people can see reason for holding production to supply. Page 18.

East Texas *Proration Order Again Fixes* 325,000 Barrel Top

Per Well Allowable Reduced to 50 Barrels, Not to Exceed 325,000 Barrels Daily After July 16

R. W. BYRAM
Austin Correspondent

AUSTIN, TEXAS, June 30.

THE Texas Railroad Commission today announced a 50-barrel per well allowable for the East Texas field for the first fifteen days of July, and 325,000 barrels per day for the entire field from July 16 to September 1, when the present order expires.

When the order was announced Col. Earnest O. Thompson, recently appointed to the commission, issued the following statement:

"The landowners, royalty owners and operators of East Texas voluntarily petitioned to fix the top allowable for that field at 325,000 barrels per day. The commission is issuing its order on that basis after July 15. The reason that we have changed our tentative order is that it has become apparent that 85 per cent of those interested in East Texas have decided that waste can be prevented and real conservation maintained by the placing of a top allowable.

"A petition for this amount was brought to us which showed that operators owning 103,845 acres of the producing area and 4,737 wells, and royalty or landowners interested in 93,063 acres of the producing area and 5,730 wells, preferred that an order of this nature be issued.

"All parties interested have come to a very definite and fine agreement, and the commission is glad to find this spirit of cooperation. It is easy for the commission to regulate production when all interested parties voluntarily submit, as the consent of the governed is essential to any regulation. Those who wanted a 51-barrel top per well consented to the change when they were informed that the commission would hold hearings to consider waste in other fields where, apparently, the production may lead to waste.

"The setting of a top for East Texas definitely commits the commission to the policy of fixed top allowables, and we believe that it will have a splendid effect on the industry and confine production to the point where the best results can be obtained in conserving our natural resources. The operators will know what to expect, and can prepare for the future accordingly. It is our purpose to establish policies of this nature in dealing with all problems of the industry to eliminate as much of the uncertainty as possible.

"I received a call from Jack Pew, chairman of the pipe line committee this afternoon, and he told me that 25 wells would be connected at once, and that at the pipe line meeting to be held a little later in the month, he would personally attempt to see that every well in the field obtained a connection. We have received other communications to this effect, and have every reason to believe that the establishment of this policy of a top allowable as a permanent plan will do much to alleviate the situation, not only in East Texas, but throughout the state."

One official of the commission called attention to the fact that Mid-Continent crude has usually brought a better price than California crude, where there has been a price increase within the last few days. He said it had been predicted that a 51-barrel top allowable would have resulted in a $200,000 loss per day, and that putting on a top allowable will mean a gain of $100,000 per day, $300,000 saved daily to the oil industry, due to this action on the part of the commission.

A letter was received from J. H. Walker, State Land Commissioner, who congratulated the commission upon its action, declaring that it has saved millions of dollars for the state from the revenues from the Sabine Riverbed lease, and form the University lands in West Texas.

Need Drilling Control to Keep Operations Profitable

Tyler, Texas.—The compromise order issued June 30th by the Texas Railroad Commission in determining the proration allowance of wells in the East Texas field during July and August is to be hotly contested by the minority group of operators that failed in their efforts to maintain the previous quota of 51 barrels daily per well for the next 60 days. The group opposing any further reduction in the allowable per well are pledged to carry on their fight, and will strengthen in numbers as the earning power of a well reaches a lower level due to the new order allowing wells 50 barrels daily production during first 15 days in July, with provisions made for scaling down the well allowable during the following 45 days in order that the output of the field may be held close to 325,000 barrels daily. Normal increase in new wells will provide the means for reducing the well allowable during the last half of July and August.

Addition of an average of more than 20 new wells to share in the field's limited output is a daily occurance, with majors and independents about equally responsible. All efforts to stiffle this new development work, which will inevitably bring on trouble for the producers and purchasing companies alike, have failed for the reason that no plan can be evolved that will please all parties concerned and get the desired results.

Unless an enforceable rule is applied to the field to throttle drilling it is a foregone conclusion that a steady reduction in the well allowable must be accepted by the well owners, or crude offerings in the field will greatly exceed the requirements of oil buyers. Collapse of the price structure in this and all other fields of the state will follow in the wake of the dumping of a large surplus of East Texas oil on the market at sacrifice prices, which would be necessary to attract buyers. Considerable difficulty has been encountered in locating a market for the entire output of the field while held to about 325,000 barrels allowable daily, and it is only through a substantial reduction in prices that a greater volume of oil may be marketed.

The group of independents insisting that the well allowable be pegged at its present level are of the opinion that major companies should discontinue withdrawing crude from storage and throw additional market support to East Texas in order to accommodate new wells added. The former are likewise bringing pressure to bear on the members of the Texas Railroad Commission to lower the output of every important field in the state until such fields have a well allowable on a par with East Texas. It has not been many months past since the commission was mildly reproached by operators outside of East Texas for favoring

the latter with a larger well allowable than the older areas.

Most East Texas operators in fairly close contact with general crude and refined oil market conditions concede that the 98 cents posted price in East Texas is doomed should any appreciable volume of production be forced upon the market. These operators prefer to take a reduced allowable per well if such is necessary to have assurance of a continuation of the top price, but at the same time are fearing the arrival of an uneconomic limit on allowable cuts should drilling continue. A single well during the first period in July is allowed 50 barrels daily, or a gross income of $49.00 daily, based on the prevailing price. Should the price be reduced 25 cents because of maintaining a 50 barrel allowable in disregard to the total wells, the gross daily revenue from 50 barrels production would then be only $36.50. It will require 7,750 wells, which number will probably exist in the field by the close of August, to force the well allowable to 42 barrels daily while adhering to the 325,000 barrel daily field limit. An allowable of 42 barrels daily per well at the present price would yield $41.16 gross income, or $4.66 more daily than a well allowed 50 barrels daily at a 73-cent posted price.

Until well completions are reduced to a minimum there is no assurance that the allowable will not go below 40 barrels daily under the present arrangement. Opponents to the plan of scaling down the well allowable forsee such a quota in store for the field during the winter months. They have forecast that the major companies must continue to take on new connections and uphold the crude price structure in East Texas or be exposed to another ouster suit by the state. Such a suit would be demanded by the independents in retaliation for so-called unfair treatment administered by the majors.

Will Not Store It

Crude purchasers supporting the 98 cent price in East Texas are opposed to accumulating any oil at such a price above current requirements, and will adhere to such a policy regardless of the legal consequences. It is probable that many of the companies will entertain the idea, or have positive plans of buying in a surplus of East Texas crude in the event of a downward revision of the price structure during the winter months, thus replenishing stocks pulled upon in the spring and summer months of the year.

Continuation of drilling activity in the East Texas field could bring on a situation that would make it the most unprofitable collectively speaking of all major oil areas. Completions could easily be boosted to 10,000 wells by the number of old wells has occurred. In fact only one well listed as flowing pipe line oil upon completion has been depleted of commercial oil production and plugged. There have been a few others that yielded water upon completion that later were abandoned.

The personnel of the Texas Railroad Commission, which has two members up for re-election in the July Democratic primaries, is burdened with the responsibility of enacting and enforcing a rule yet to be conceived that will curb drilling. It is questionable as the close of 1932. Little shrinkage in to whether any law can be passed and enforced that will survive court attacks, and it is quite certain that relief through the courts will be attempted by some individuals and companies now operating in the field. Well founded rumors have it that a new attempt to restrict drilling in this particular field will be resorted to by the commission after the election through a radical change in the method of proration and fixing of well and lease allowables.

Oklahoma Soldiers *Not Sure* What Governor's Order Means

Oklahoma City.—Lieutenant Colonel Cicero Irving Murray has spent a considerable portion of his time during the past week trying to explain exactly what was meant by Governor Murray's military order of June 21. Although the order specifically states that, "For the purpose of investigating orders for equitable proration and recommending to the governor the allowable for each of said wells in said field, there is hereby created a proration board which will consist of the five following persons," and "all authority or powers or functions of the present umpire and proration officials now in control of the field are hereby suspended." Cicero Murray, who admits that he helped write the order, now says the governor had no intention of relieving the Corporation Commission of any of its authority except that of enforcement. Colonel Murray has advised the Corporation Commission that it can go ahead and recommend allowables as it has done in the past. In the meantime the commission has issued an order continuing from June 28 to July 11, the meeting of operators and purchasers for determination of allowable production for the last 15 days in July. The order in force June 15 to June 30 is extended until July 15, at which time it is hoped Governor Murray will make himself clear and place the commission in a position to go ahead with its work.

The session which commences July 15 probably will extend over a period of several days as it is expected to be rather stormy. It seems evident in view of statements attributed to members of the Corporation Commission, that at that time the governor will either have to take full charge or back up on his order of June 21, whereby he apparently relieved the commission of its normal proration duties. The military order specified that, "each and every pipe line owner, manager or operator of pipe lines transporting oil out of the field to loading racks and storage other than storage on the lease is hereby required to equip immediately and not later than August 1 with meters sufficient to determine as accurately as possible the flow of oil through said pipe lines—"

So far it has not been reported that any meters have been purchased.

Halt Lease Rentals When Development Suspended

Washington, D. C.—Legislation relieving lessees of government oil lands from the payment of acreage rentals during such periods as operations and production may be suspended was passed by the Senate June 27, and an effort will be made to secure action by the House of Representatives before adjournment of the session.

The measure also provides that the term of such leases shall be extended by adding the suspension period thereto. None of the provisions of the bill, however, will apply to leases within the naval petroleum reserves.

The bill amends the general leasing act of 1920 by adding a new section providing that "in the event the Secretary of the Interior, in the interest of conservation, shall direct or shall assent to the suspension of operations and production of coal, oil, and/or gas under any lease granted under the terms of this act, any payment of acreage rental prescribed by such lease likewise shall be suspended during such period of suspension of operations and production; and the term of such lease shall be extended by adding any such suspension period thereto: Provided, that nothing in this act shall be construed as affecting existing leases within the borders of the naval petroleum reserves and naval oil-shale reserves."

Iraq Causes Activity But Not Anxiety

Oil Markets May Change in 1936

D. B. WILLIAMS
Petroleum Engineer, London

While the accompanying discussion of Iraq adds nothing to what has been printed about the oil development in that region and its international aspects, it is an interesting summation of that situation. The author has put a humorous slant to the division of this prospect among the nations involved in the development.

A WAVE of Mohamedanism is spreading throughout the premier nations of the world. This phenomena is explained not by an unchristian action of the countries concerned but by the Mahomedan practice of looking to the East. Not only the Bedouins from their minarets and the desert nomads from their tents but the oil magnets from their sky-scrapers in New York and London and the scheming diplomats from Paris turn their heads towards the East from whence the sun riseth.

This interest is caused by the fact that international negotiations have at last been successfully concluded with the Iraq government and in addition the various groups constituting Iraq Petroleum Company, Ltd., have reached an agreement regarding their present development policy.

The preliminary work in connection with the survey of the route to be followed by the pipe line which will connect the oil fields with the Mediterranean has also been concluded and its final route decided upon. Most important of all is the fact that work will very shortly be commenced on the laying of this pipe line which it is anticipated will not be completed and in operation before 1935.

Various estimates have been hazarded as to the ultimate cost of such a titanic undertaking and it is fairly safe to say that the entire project will approach an actual expenditure of about $50,000,000. The length of the line will be approximately 1200 miles and will therefore represent one of the greatest engineering feats of its nature in the world.

Pipe Line Route

Iraq oil will naturally find its outlet in European markets and Iraq Petroleum Company, Ltd., will therefore lay its line direct to the Mediterranean seaboard. The line will commence at Kirkuk in close proximity to the main field and will consist of two sets of electrically welded steel pipe. It will proceed in a southwesterly direction crossing the Tigris River at Fataha and then on to Haditha on the river Euphrates where the line will bifurcate. One branch will then go westward through Syria, over which France possesses mandatory rights, passing in close proximity to Abu Kemal, Palmyra and Homs to Tripoli which will be the ocean terminus for this section of the line. The second arm will pass through Transjordania and Palestine, which are under British jurisdiction, via Rutba and Azrek to Haifa which will be the second ocean terminal.

The original route selected was over British mandatory territory to Haifa and although this encountered the full approval of the Iraq government the French interests in the group emphatically insisted on the line crossing country under their jurisdiction, entailing a slightly shorter line. It was found impossible for the interested parties to come to an unanimous decision as to the route to be followed and it was therefore decided to bifurcate the line in the manner mentioned above.

Construction Details

The greater part of the line will consist of 12-inch pipe although it will initially start off from Kirkuk with 10-inch. A small section will consist of even smaller pipe where the line descends sharply into the Jordan valley. The hydrostatic pressure at this point will be so great that a smaller sized pipe will be capable of carrying the oil over the final stretch of this part of the line.

View of Baghdad, capitol of the Kingdom of Iraq, which may enter the ranks of oil exporting nations during 1935.

The actual distance from Kirkuk to the Mediterranean is only approximately 500 miles but deviations and the splitting of the lines will result in a total overall length of 1200 miles. Twelve booster stations will be placed at intervals along the line and it will of course be necessary to erect storage facilities at the field and also at the two Mediterranean terminals. Although for the greater part of the route desert land will be crossed the pipe line engineer will have to negotiate several rivers and steep inclines. Very few roads and no railroads exist to help the engineer but in the main the desert consists of a hard surface which should facilitate the transportation of the pipe.

A total of 125,000 tons of steel will be required for this line and it is understood that tenders have already been accepted for this work and have been allocated as follows:

French steel	48 per cent
British steel	37 per cent
American and German steel.	15 per cent

It was generally anticipated that as the quantity of steel required was so large and Iraq Petroleum Company being an

Palkanah Seepages and Collecting Lines. Distorted Gypsum beds from the hills of the background. Light colored rock in foreground is so-called "Seepage" Limestone. The scene is in Iraq.

international concern that no one tender would be accepted from one individual country. It must also be remembered that although the American proportion is relatively small this country practically holds the monopoly for supplying drilling and production equipment.

The contract for British steel has been secured by Stewart & Lloyds, Ltd., one of the largest steel concerns in this country. The order calls for supplies of steel pipe in lengths of 40 feet to be delivered on ship in Great Britain. This will necessitate Iraq Petroleum Company shipping the pipe from Glasgow to Haifa and it is anticipated that this work will be entrusted to Strick & Company of London.

The French portion of this contract will be shipped in French bottoms to Tripoli and it is understood that as the French interests are anxious to complete their portion of the line with the least possible delay work will be commenced immediately.

Naturally the laying of the pipe line and the general development work in the oil fields will necessitate further construction work. Redpath Brown & Company, Ltd., of London, have secured the contract for steel work for the erection of 63 buildings comprising of about 1800 tons of steel to be used for constructing offices, bungalows, garages, workshops and a hospital.

Other construction work will include the laying of a telegraph line between the oil fields and the ocean terminals. British Mannesman Tube Company, Ltd. (Baldwins Limited) has obtained a large contract for the furnishing of the poles for this line which, it should be stated, will be available for the use of the Iraq government in accordance with agreements entered into with the company.

Personnel Who Will Construct Line

It is only natural that a company with such vast resources should select the most experienced men to survey the route, study the various problems and undertake the laying of the line.

J. A. Meny, associated with the French interests of the group, will have virtual charge of the construction work. The preliminary work entailing the survey of the route and the study of the many technical problems was entrusted to H. S. Austin, the builder of the Ajax pipe line and president of Ajax Pipe Line Company which is closely connected with the Standard Oil Company of New Jersey. In this work he was assisted by a number of American experts which included such able men as Capt. M. Stuckey who was primarily connected with the laying of the Andean Pipe Line in Colombia.

The engineering staff of the line will principally consist of Americans while the mechanical and accounting branches will be chiefly British. A large proportion of Frenchmen will be employed on their portion of the line while the labor supervisors will be Europeans who speak the local dialect.

Invasion of the Holy Land

It is strange that a little over 700 years ago an expedition set out to conquer the Holy Land and these White Crusaders were composed of representatives of the largest nations of that time. Today the Black Crusaders are setting sail for that same country and they like their brother crusaders are international in their composition but unlike their predecessors are there to win oil and not battles. Their fight will be with nature and not mankind. Is it not right therefore that a crusade of this nature should be international in its texture for what country alone with its own resources could tackle such a gigantic undertaking?

Oil was only discovered some 70 years ago and yet there is definite proof of its existence in this Holy Land nearly 5000 years ago. We read in the Bible of the eternal fires which still exist today and we know that pitch was largely used in the construction of Noah's Ark. Oil has been discovered in practically every part of the world but only recently have we seen it produced in the oldest country of our history.

All Christian nations of the world claim some historical origin from the Holy Land, whose forebears moved to other lands flowing with milk and honey. These selfsame nations are now sending their sons back to this historical country in order that the desert will yield up oil and a land flowing with oil will eventually flow with milk and honey.

The Story of Iraq Oil

The story of Iraq oil has been told many times but very few are wiser after the telling. Let me try to explain the

position in language that any oil hound can understand.

Many years ago (to be precise in 1904) the English Bulldog and the German Daschund discovered what appeared to be a nice juicy bone in the shape of Mosul oil. For years they scraped around and tried to get bits off the bone to their kennels but a big dog fight started in 1914 and they both had to rush away and join in the ensuing melee. The poor Daschund got badly mauled and lost his share of the bone so the Bulldog worried his way along alone. In 1922 the French Poodle started howling furiously and said as he had bitten the Daschund in the tail he ought to have a portion of the bone. Later the Shell Mongrel sidled alongside the Bulldog with a story of the big fat bones he had licked so he got a promise of one of the knuckles. This started the American Terrier barking and, having previously hidden all his own bones in his kennel, demanded his share of the bone as he claimed all the other dogs could his bones. As the bone promised to be a big one and the Terrier had such a nasty bark he was also given a share. Incidentally a small Lapdog, who on account of his smallness, had been useful in the first place in helping the Bulldog to get the bone away, was promised the marrow.

We can only hope there will be some meat on the bone.

The pedigree of these dogs can be traced to the Anglo-Persian, Royal Dutch Shell, Cie. Francaise des Petroles, and Near East Development Corporation, all of whom now own 23¾ per cent interest in the Iraq Petroleum Company, Ltd., while the remaining five per cent goes to C. S. Gulbenkian operating under the style of Participations and Investments Limited.

Near East Development Corporation was originally composed of the Standard Oil Companies of New Jersey and New York, Gulf Refining Company, Atlantic Refining Company and Pan-American Petroleum Company. The latter two companies have sold their share to Standard interests who now own virtual control of this portion of the group.

The Iraq Oil Fields

We know that the pipe line when complete will have a capacity to handle approximately 30,000,000 barrels of oil per annum so that we should naturally assume that a huge potential has been built up by this company. This is not the case. actually to date only about 35 wells have been drilled and at present only one string is being operated.

Although many exploration tests have been drilled so far only three commercial fields have been discovered. The first important discovery was the Naft Khaneh field by the Anglo-Persian Oil Company, in 1927, in the Transferred Territories of Iraq. This field produces about 800,000 barrels annually and is equipped with a small refinery which supplies local markets.

The remaining two fields are Kirkuk and Quiyarah both of which belong to Iraq Petroleum Company, Ltd. Baba Gurgur 1 was the discovery well of the former field, in October, 1927, and was estimated to flow at the rate of 20,000 barrels per day. Most of the subsequent drilling has been in the Kirkuk field and has proved up approximately 12,000 acres. Taking the recovery of oil at only 15,000 barrels per acre it will be readily seen once exploitation work commences in earnest it will be an easy matter to obtain sufficient production to keep the pipe line in operation. The gravity of crude in this field averages 36° Be and has an asphaltic and paraffin base. Quiyarah crude has a much lower gravity and can be compared with heavy Venezuelan crude (Lagunillas oil).

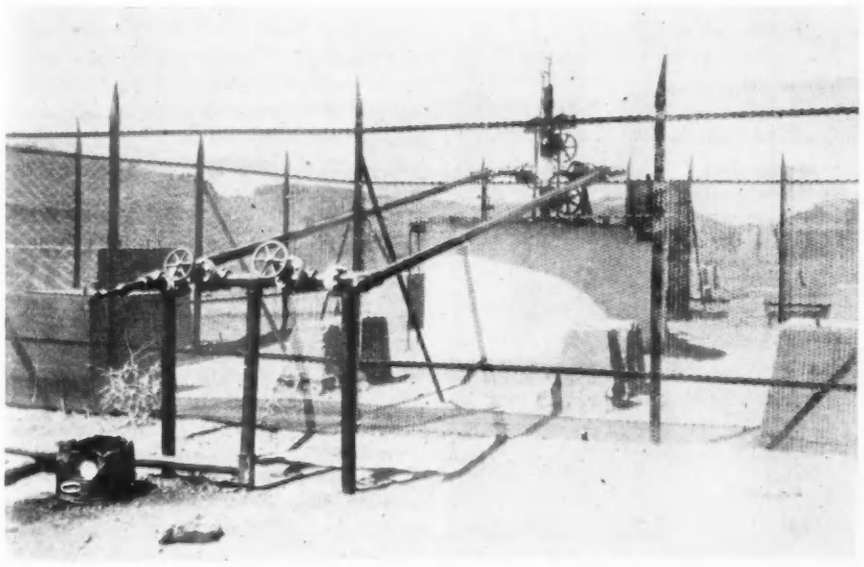
The main structure at Kirkuk is long and narrow and great care has to be exercised by the geologist in locating wells. The reservoir rock is practically entirely limestone varying in thickness from 500 to 1000 feet. No deep drilling has so far been necessary and present average depths of wells rarely exceeds 3000 feet. Lack of storage facilities has prevented this company making exhaustive production tests on wells but it is fairly safe to predict a huge ultimate recovery from this field.

What of 1936

Some anxiety is felt in the oil industry as to the effect of Iraq oil on the world's markets. In the first place a lot may happen between now and 1936 as in 1928 no one dreamed that a crisis would arise in 1931 when all markets were flooded with a cheap oil caused by over-production. According to many brilliant economists this problem is already correcting itself and the position today is brighter than it has been for many months. In any case the whole problem is controlled by some of the largest oil groups in the world who have shown their readiness to cope with the many problems encountered in the industry today and have not hesitated to co-operate in making restrictions in the general interests of the industry.

When it is remembered the immense capital that has been sunk in exploiting Iraq oil it is hardly likely that the interested parties will jeopardize their existing markets by flooding. The only possible danger is the French interests who are now constructing large refineries in France and are anxious to obtain a definite source of supply of crude oil.

Iraq will not be exploited solely by Iraq Petroleum Company as the Anglo-Persian Oil Company has concessions in the territories transferred from Persia to Iraq and in addition British Oil Development Company, Ltd., is negotiating with the Iraq government for acquisition of oil concessions in this country. It is interesting to note that this company, although of British origin, will include important interests of Germany, Italy and Switzerland.



Completed well, Iraq Petroleum Company, Ltd.

Slackening in Gas Production Began in 1930

H. J. STRUTH

WHILE official statistics of the natural gas industry for 1930 show that production attained a new high level, details of output by states indicate that a slackening rate of output began to manifest itself during that year. In fact, subsequent estimates of production point to a substantial decrease in 1931, brought about by curtailment of operations in practically all producing states. Figures on natural gas production for 1930, compiled by G. R. Hopkins and H. Backus, of the U. S. Bureau of Mines, show total production of 1,943,421,000,000 cubic feet, an increase over 1929 of 1.3 per cent. This was far short of the increase recorded in 1929 over 1928, when production rose approximately 350,000,000,000 cubic feet, whereas the increase last year only amounted to less than 25,000,000,0000 cubic feet. Estimated production of natural gas for 1931 indicates the possibility that there was a decline under 1930 of perhaps 243,000,000,000 cubic feet. Total production for 1931 probably did not exceed 1,700,000,000,000 cubic feet.

Significant in the figures for 1930 is the fact that many states reported substantial declines in natural gas production. In fact, Texas was the only state to record a substantial increase in that year. Texas' production amounted to 517,880,000,000 cubic feet, against 464,928,000,000 cubic feet in 1929. Small increases were also reported by Indiana, Kentucky, Louisiana, Montana, New York, Ohio and New Mexico. Oklahoma's production in 1930 amounted to 348,116,000,000 cubic feet, against 357,893,000,000 cubic feet in 1929. California also reported a decline to 334,789,000,000 cubic feet from 342,214,000,000 cubic feet. The greatest rate of decline was in West Virginia, where output dropped more than 23,000,000,000 cubic feet; to 144,180,000,000 cubic feet. Decreased production was also reported by Arkansas, Illinois, Kansas, Pennsylvania and Wyoming. Texas has shown a steady upward trend in natural gas production since 1918, when output only amounted to 13,440,000,000 cubic feet.

Consumption

Consumption of natural gas in 1930, including imports from Canada, less exports to Canada and Mexico, amounted to 1,941,644,000,000 cubic feet. Imports from Canada in 1930 amounted to 21,000,000 cubic feet, while exports to Canada and Mexico were 107,000,000 cubic feet and 1,691,000,000 cubic feet, respectively. Consumption of natural gas in the United States was divided as follows:

	Cubic Feet
Domestic	376,407,000,000
Carbon Black	266,625,000,000
Field Uses	723,165,000,000
Power Plants	120,290,000,000
Refinery Fuel	98,842,000,000
Cement Plants	41,256,000,000
Other Industrial Uses.	315,059,000,000
Total	1,941,644,000,000

The number of domestic consumers, including commercial users, amounted to 5,448,000, a gain over the preceding year of seven per cent. This increase reflects the completion of the major part of the system from the Monroe-Richland gas field to Atlanta, Georgia, and the addition of numerous laterals to other long-distance transmission systems.

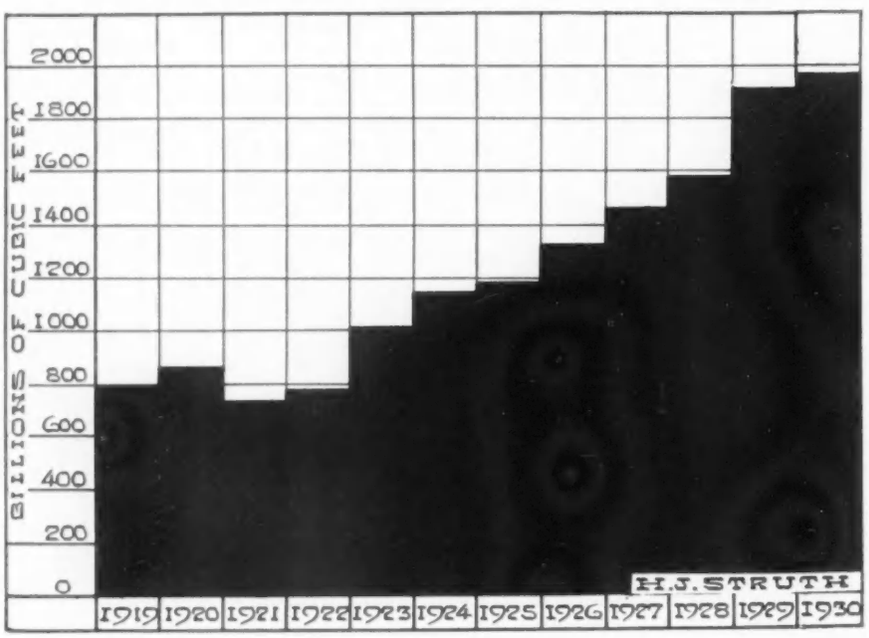
The quantity of natural gas treated for the recovery of natural gasoline in 1930 amounted to 2,088,778,000,000 cubic feet, or 107 per cent of the quantity produced and delivered to consumers. The excess treated represents largely gas produced from oil wells, which are so located as regards the fuel markets that the residue gas is valueless and is allowed to escape into the air or burned in gas flares. Production of natural gasoline decreased in 1930, the first decline ever recorded. The decline was influenced mainly by the growth in stabilization which reduced the yield per thousand cubic feet treated. In fact, in 1930, the yield of natural gasoline from natural gas dropped to 1.06 gallons per thousand cubic feet, against 1.14 in 1929 and 1.23 in 1928.

Well Price Lower

Prices of natural gas at the wells continued to decline in 1930. The average price dropped to 7.6 cents per thousand cubic feet, from 8.2 cents in 1929. However, value of gas at points of consumption showed stability. Domestic rates showed an average of 63.5 cents per thousand, against 62.0 cents in 1929, while industrial rates showed an average of 11.3 cents, against 12.2 cents in 1929. The average of both domestic and industrial rates was 21.4 cents per thousand, against 21.5 cents in 1929. Value of natural gasoline at plants dropped to 5.8 cents a gallon, from 7.1 cents in 1929, while carbon black prices declined to an average of 3.9 cents per pound, from 5.1 cents in 1929. Total value of gas at wells in 1930 was $147,048,000, against $157,596,000 in 1929.

(*Continued on page* 41)

Annual Marketed Production of Gas in the United States



MEN IN THE INDUSTRY'S NEWS

D. B. COLLINS, field superintendent for Shell Oil Company in the Coalinga district, will leave the United States within a few weeks for The Hague to receive an assignment for duty with the parent company. He will be succeeded at Coalinga by John Landers.

IRVINE E. STEWART, consulting geologist of Los Angeles and Great Falls, is doing geological work in the Pacific Northwest. He was formerly head of the geological department of The Texas Company of California, and has done extensive work in the Hoh River district.

LOGAN BURRELL, formerly petroleum engineer for Shell Oil Company in the Los Angeles office, has been promoted to technical assistant to the first vice president in the main office in San Francisco.

S. W. EMMERSON of Cushing, Oklahoma, left during the past week for Arabia, where he will be employed on the Iraq pipe line project. Headquarters will be maintained at Tripoli. Mr. Emmerson is an engineering graduate from the University of Oklahoma.

J. H. WHITNEY, formerly an employee of Standard Oil Company and until his death the oldest living man who had worked in the Pico Canyon district, died recently after a short illness.

J. W. MILLER, an Oklahoma operator, has entered California and will drill his first well in the San Miguelita field, about midway between the Rincon and Ventura Avenue fields.

A. F. BROWN, vice president of Baash-Ross Tool Company, left Los Angeles June 21 en route to Houston, in his automobile, after a short visit at company headquarters. He insisted that he would make the 1800-mile trip in three days, but his associates asked him to verify his time.

THE Petroleum Accountants Society of Los Angeles held its annual election of officers June 23, and named the following men for the ensuing year: Rollin E. Ecke, Wilshire Oil Company, president; James S. Wallace, Richfield Oil Company, first vice president; R. P. Huggins, Western Gulf Oil Company, second vice president; and Fero Williams, George F. Getty, Inc., secretary-treasurer.

PETE S. HAURY, former petroleum engineer for Simms Oil Company, Dallas, Texas, and more recently engaged in consulting work in California, has departed for Heianhokudo, Chosen (Korea), where he will enter the employment of Yeiju Mines, Ltd., as a metallurgist.

D. CLINT WALKER, Burmah Oil Company, India, has returned to the United States for a brief holiday. He was scheduled to leave New York late in June for fields and oil field equipment manufacturing plants located in the Mid-Continent and California to study drilling methods and equipment.

W. G. HELTZEL, general superintendent with J. B. Harshman, and C. M. Scott, Jr. of the engineering department; F. P. O'Connor, superintendent of telephone and telegraph; and E. L. Jennings, head of the safety department of Stanolind Pipe Line Company, spent several days during the past week in various Texas areas. They were joined on the trip by O. H. Powell, superintendent and J. J. Hill, head of the Fort Worth office.

MAPES ACTIVE IN ECONOMIC WORK

CLAREL B. MAPES, assistant general secretary and technologist for Mid-Continent Oil & Gas Association, was born in Laddonia, Missouri, and belongs to one of the pioneer families in Norman, Oklahoma, the home of the University of Oklahoma. Mr. Mapes received his engineering training in that institution, having received a B. S. degree in civil engineering in 1922, A. B. in 1923, and an honorary degree of Civil Engineer in 1926. After receiving his first degree he became associated with J. C. Milliken, civil engineer in Chickasha, Oklahoma, doing general municipal and highway engineering work. Later he became an assistant engineer for the Oklahoma Gas and Electric Company, being chief of a field party in the northern division, engaged in location and survey on high tension transmission lines. On June 1, 1923, he sailed for Central America to become exploration and assistant engineer for Truxville Railroad Company (United Fruit Company), maintaining headquarters at Puerto Castilla, Republic of Honduras. This work included jungle exploration, railroad surveying, drainage and irrigation, design of equipment, etc. Returning to the United States in March, 1924, Mr. Mapes became engaged in the private professional practice of civil engineering in Norman. During the following three years he was successively, civil engineer in the department of economics for Marland Oil Company, assistant to the president of Carr and McFadden Incorporated, civil and consulting engineers in West Palm Beach, Florida, and on November 11, 1927, came to his present position.

CLAREL B. MAPES

Mr. Mapes is active in Mid-Continent oil affairs, being the 1932 chairman of Petroleum Section, American Institute of Mining and Metallurgical Engineers. He is a member of the American Association of Engineers, Association of Collegiate Engineers, Society of American Military Engineers, American Statistical Association, American Academy of Political and Social Science, Sigma Tau and Phi Beta Kappa. He is also a Scottish Rite Mason. Mr. Mapes received much favorable comment on his paper, "An Economic Review of the Oil Industry in Oklahoma," presented before the December, 1931, meeting fo the Mid-Continent District, American Petroleum Institute.

H. S. HOWARD, formerly in charge of tankage for Prairie Oil & Gas Company, has been transferred from Tulsa to Eastland where he will be in charge of Texas storage for Sinclair-Prairie Marketing Company. C. R. Walts is general superintendent of tankage.

GEORGE H. LANG has been made a vice president of Carter Oil Company according to an announcement posted last week by C. H. Lieb, president of the company. Lang was formerly a field scout who graduated to chief scout and subsequently was made assistant to the president. A few months ago he and J. J. Conry were added to the board of directors.

GEORGE D. LOCKE, president of the Western Refiners Association, and Howard Bennett, managing director of the association, were honor guests at a luncheon given to them in Shreveport, June 25, by the Louisiana-Arkansas Refiners Association. D. P. Hamilton, president of the Louisiana-Arkansas group presided. The two officials of the Western Refiners Association, are making a tour of all the middle western refiners groups.

C. A. YOAKAM, chief geologist for Rogers Oil Company of Oklahoma City, spent a portion of the past week in Tulsa.

WARNER LEWIS, Mid-Continent representative for Viking Pump Company of Cedar Falls, Iowa, has moved from Sapulpa to Tulsa and will have offices at 1424 South Boston.

ADOLPH DOVRE, geologist in charge of Tidal Oil Company's Southwest Texas office at San Antonio, returned late last week from a vacation spent in New York.

Relief Promised East Texas Wells Without Connection

Dallas, Texas.—Relief for scores of unconnected wells in the East Texas field will be provided by the Volunteer well connection committee, representing crude purchasers and pipe line companies, at a meeting scheduled to be held here July 6, according to Jack G. Pew, Sun Oil Company, chairman. The committee postponed its last scheduled meeting because of all buyers being reluctant to absorb new connections until some assurance was given that the Texas Railroad Commission would continue to lower the well allowable to offset the many new completions being hooked up to tank batteries on existing lease connections.

Texas Commission Moves to Prevent Gas Rate Increase

Austin, Texas.—The Texas Railroad Commission has obtained a temporary restraining order preventing Community Natural Gas Company from increasing their rates in some 90 communities of less than 500 population. Previously, officials of the gas company had signified their intention of raising these rates, effective July 1.

The law regulating gas utilities directs the manner in which the gas rates may be raised in incorporated towns of over 500 population. It provides that in case the gas utility desires an increase in rates that it shall make its application to the city council of the town in which the increase is desired. If the city council takes no action on this application within 60 days, the case may be brought to the railroad commission, and if the commission fails to act within 60 days, the utility is free to take the question to the courts.

The law does not provide the procedure that shall be followed when an increase is desired in unincorporated communities, or in incorporated towns of less than 500 population.

In asking the attorney general to institute proceedings to prevent the raise in rates in these communities, it was the commission's belief that as nearly the same procedure should be followed in these smaller towns and communities, as was followed in the larger places. Any other system would seem unfair.

The statute gives the commission jurisdiction over rates in unincorporated towns and towns of 500 population or less, and the commission feels that these rates should not be increased without some showing that an increase is deserved.

"If the commission can prevent it," said Chairman Terrell, "it will not permit a raise in the rates in these small towns until it is shown that the rates now in effect are too low."

Lone Star Value Hearing Postponed Indefinitely

Austin, Texas.—The hearing on the evaluation of the Lone Star Gas Company properties, set for July 11, has been postponed indefinitely by the Texas Railroad Commission to permit the Oklahoma Corporation Commission to make a survey of the properties of this company in that state.

An election on July 1 in Oklahoma will render funds available from which the engineers will be paid, and it is probable that there will be no hearings on the matter until October, when the hearings of the two states will be consolidated.

A. I. M. E. Coast Section Announces Program

Los Angeles.—The regional meeting of the American Institute of Mining and Metallurgical Engineers will be held in Los Angeles, July 28 and 29. Headquarters will be at the Biltmore Hotel, where all technical sessions and luncheons will be held. The July 28 program will be under the auspices of the Petroleum Division, Hallan N. Marsh, chairman. July 29 will be devoted to gold and silver. Dr. Scott Turner, president of the Institute and director of the United States Bureau of Mines, will be present. The program for July 28 is as follows:

Petroleum Division

Forenoon—Chairmen: C. P. Watson and L. L. Brundred.

Basic Economic Principles Applied to the Petroleum Industry.

9:30 A.M.—L. P. Stockman, Independent Oil Producers Assn.

Recent Work on Porosity and Related Factors.—Symposium.

10:15 A.M.—(a) Porosity and Permeability of Rocks. F. G. Tickell, O. E. Mechem and R. C. McCurdy, Stanford University.

(b) Development of Hydrogen Porosimeter. C. J. Coberly, Kobe, Inc., A. B. Stevens, University of Southern California.

(c) Relation Between Porosity and Density. W. O. Smith, Pittsburgh, Pennsylvania.

11:15 A.M.—Relation of Production Engineering to Oilfield Operations and Personnel. E. H. Griswold, Continental Oil Company, Ponca City, Oklahoma.

Afternoon—Chairmen: W. H. Geis and H. N. Marsh.

Present and Proposed Bases of Proration.—Symposium.

2:00 P.M.—(a) Potential Oil Production Rate. Joseph Jensen, Associated Oil Company.

(b) Uniform Allowable Gas Production. A. H. Bell and R. M. Barnes, Continental Oil Company.

(c) Reservoir Content. John F. Dodge, University of Southern California.

(d) Maintenance of Uniform Reservoir Pressure. C. V. Millikan, Amerada Petroleum Corporation, Tulsa, Oklahoma.

Killing of Milham Elliott and Continental Elliott Wells, Kettleman Hills, 3:30 P.M.—R. A. Silent, Doheny Stone Drill Company, N. A. Rousselot, Milham Exploration Company.

FOR DEEP WELLS

rely on this

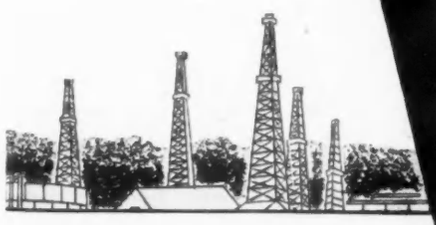
SEAMLESS UPSET TUBING

AS wells go deeper and conditions of service grow more severe, tubing is put to altogether new tests. Authentic records of performance are the best proof of fitness. And experience has removed all doubt of the capability of Seamless Upset Tubing to cope with the difficulties entailed by great depths, variable formations, crooked holes, and other adverse conditions.

The seamless walls and heavy upset ends of Seamless External Upset Tubing provide extra strength just where ordinary tubing is most vulnerable. There are no welds to open under strain and concentration of wear or under the cutting action of sucker rods. The thickened ends afford abundant wearing metal, force any bending away from the joints, and give increased resistance to the crushing action of the coupling—an important safeguard where tubing is to be made up and broken down again and again. The result is longer and more assured usefulness.

When running a long string or pumping a deep well, the experienced operator relies on NATIONAL A.P.I. External Upset Tubing—

America's Preferred Seamless Tubing



NATIONAL TUBE COMPANY

Subsidiary of United States Steel Corporation

PITTSBURGH, PA.

NATIONAL-SEAMLESS EXTERNAL UPSET TUBING

California *Cuts Production And Gets* Price Increase

DESPITE protests by some producers of heavy oils that they did not share equitably in the upward adjustment of California crude oil prices, there has been considerable elation in that state as well as in the industry in general over the success of the Californians in bringing about higher prices through meeting official allowables in all fields.

The satisfaction has extended also to the refining and marketing branches, since the crude oil price boosts were accompanied by a substantial increase in California retail gasoline prices.

That the producers as a whole are pleased with their "reward" of a price adjustment for their curtailment program, and that they still support the new schedules by continued maintenance of the restricted program is indicated in estimates of production for the first few days under the new prices, the output for the week ending July 1 having averaged 455,000 barrels daily, as against 464,000 barrels the previous week. The higher prices are to be maintained by the major purchasers only so long as production is held within the stipulated allowables.

In announcing that it would withdraw the new postings if excesses crop out and remain for 10 days or more, Standard Oil Company of California through its president, K. R. Kingsbury, pointed out that ". . only through continued cooperation of the producers of the state and by constant vigilance will it be possible to maintain the present improved condition and to effect the further curtailment which will be necessary when the seasonal peak demand has passed."

The above quotation is from a telegram sent June 25 to William M. Keck, chairman of the Executive Committee for the Curtailment of the Oil Industry of California, announcing that since production in each field of the state had been brought within the figure set by the mentioned committee, the Standard Oil Company effective June 26 would increase postings. The revision was a 25-cent increase for 27 gravity Signal Hill crude, raising it to $1.00 per barrel, with relative prices for refinable crude oil of other gravities in other fields.

These price increases were subsequently met by other purchasers, including Union Oil Company of California, the Shell interests, and The Texas Company. The new prices except for a few fields are presented in tabular form in this issue. One of the fields omitted is Ventura Avenue, where Associated Oil Company has posted new prices as follows: 22 gravity, 72 cents; 23 gravity, 77 cents; 24 gravity, 82 cents; 25 gravity, 86 cents; 26 gravity, 90 cents, with a three-cent differential for each additional degree upward, ending with 30 gravity $1.02.

Gasoline Increase

Following the crude oil price increase Standard Oil Company of California announced an increase of 2½ cents in the service station price of gasoline, making the new retail gasoline price 18 cents for first grade in San Francisco and 17½ cents in Los Angeles. The total price includes the new federal tax of one cent and the California state tax of three cents.

The average increase in the crude oil price schedule was as much as expected, but the rise among the lower gravities was a disappointment in some quarters. The most popular grades were raised about 25 cents, with the higher grades receiving a greater boost and the lower refinable grades commanding smaller increases.

Producers of heavy crude in the San Joaquin Valley have protested the "inequities" of the new schedule, claiming that the heavier grades of oil should be advanced with the lighter grades. No changes were posted in the price of crude ranging from 14 to 20 gravity. Producers of heavy oil insist that they have been more in line than the producers of light oil, yet they are rewarded with the same old crude price schedule. The protests mention the possibility of a strained curtialment situation, but it is believed that an adjustment will be made before trouble ensues.

Price Per Barrel in California Fields Posted by Standard Oil Company

(All gravities above those quoted take highest price offered in that field)

Gravity	Signal Hill	Seal Beach Alamitos Heights	Huntington Beach	Inglewood	Playa Del Rey	Olinda-Brea Canon	Athens-Rosecrans Domingues	Elwood Terrace	Torrance	Richfield	Whittier La Habra	Montebello	Coyote Hills	Santa Fe Springs	Newhall McKittrick Kern River	Midway, Sunset Elk Hills Buena Vista Hills	Lost Hills	Coalinga	Wheeler Ridge	Gravity
14-14.9	$ .65	$ .65	$ .65	$ .65	$ .65	$ .65			$ .65	$ .65	$ .65	$ .65	$ .65	$ .55	$ .55	$ .55	$ .55	$ .55	$ .55	14-14.9
15-15.9	.65	.65	.65	.65	.65	.65			.65	.65	.65	.65	.65		.55	.55	.55	.55	.55	15-15.9
16-16.9	.65	.65	.65	.65	.65	.65			.65	.65	.65	.65	.65		.55	.55	.55	.55	.55	16-16.9
17-17.9	.65	.65	.65	.65	.65	.65			.65	.65	.65	.65	.65		.55	.55	.55	.55	.55	17-17.9
18-18.9	.65	.65	.65	.65	.65	.65			.65	.65	.65	.65	.65		.55	.55	.55	.55	.55	18 18.9
19-19.9	.65	.65	.65	.65	.65	.65			.65	.65	.65	.65	.65		.55	.55	.55	.55	.55	19-19 9
20-20.9	.69	.69	.69	.71	.69	.69			.69	.69	.68	.65	.65			.59	.59	.59	.57	20-20.9
21-21.9	.74	.74	.74	.77	.74	.74			.74	.74	.72	.67	.66			.63	.63	.62	.60	21-21.9
22-22.9	.79	.79	.79	.82	.78	.79			.79	.79	.77	.70	.70			.69	.69	.65	.63	22-22.9
23-23.9	.84	.84	.84	.87	.82	.84			.84	.84	.83	.73	.76			.75	.75	.68	.66	23-23.9
24-24.9	.89	.89	.89	.92	.86	.89	$ .89		.89	.89	.89	.76	.81	$ .73		.81	.81	.72	.69	24-24.9
25-25.9	.93	.93	.93		.91	.93	.93		.93	.93		.80	.86	.79		.87	.87	.75	.72	25-25.9
26-26.9	.97	.97	.97		.96	.97	.97						.90	.84		.92	.91			26-26.9
27-27.9	1.00					1.00	1.00						.94	.89		.97	.94			27-27.9
28-28.9	1.03					1.03	1.03						.98	.94		1.02	.99			28-28.9
29-29.9	1.06						1.06						1.02	.98	Kettle-	1.07	1.02			29-29.9
30-30.9	1.09						1.09						1.05	1.02	man	1.12	1.05			30-30.9
31-31.9							1.12							1.06	Hills					31-31.9
32-32.9							1.15							1.10						32-32.9
33-33.9								$1.04						1.14	$ .91					33-33.9
34-34.9								1.10						1.18	.93					34-34.9
35-35.9								1.16						1.22	.95					35-35.9
36-36.9								1.22							.97					36.36-9
37-37.9								1.28							.96					37-37.9
38-38.9															1.01					38-38.9
39-39.9															1.03					39-39.9

Subject to Field Gathering Charge of 5¢ per barrel

F.O.B. Ship

MARKETS ~ STATISTICS

Oklahoma Principal Contributor to Drop in Production During Week; Situation in California Seems Well in Hand; East Texas Not Up Appreciably.

Production Reflects Curtailment Programs

SUCCESS attending curtailment programs throughout the United States was reflected during the past week in lowered crude oil output for the nation, the daily average for the week ending July 1, representing a decline of 36,595 barrels from that of the previous week. Last week's production averaged 2,100,790 barrels daily.

The outstanding production decline contributing to the national drop was in the Oklahoma City field, where state authorities required proration excesses to be compensated by shutting back production. That field was cut down for the week to an average daily output of 66,200 barrels, or 29,050 barrels less than the previous week. Other fields of the state showed no noteworthy changes.

The strict curtailment program through which California producers on June 26 attained their coveted goal of a general price increase is due to be adhered to in the future, likewise, if the past week's statistics are a criterion, for the daily average further declined by 9000 barrels for the week ending July 1, as compared with the previous week. It is imperative that all fields in that state continue within their official allowables if the higher prices are to be maintained, for Standard Oil Company of California, which took the initiative in posting the new prices, has declared that it will withdraw them if excesses occur and are persisted in for so long as 10 days.

Threatened release of greater quantities of crude oil in the East Texas field has been averted through issuance of an eleventh-hour order by the railroad commission on June 30 continuing its former policy of holding the field's total daily output to 325,000 barrels daily irrespective of the number of new wells being brought in at the rate of about 20 daily, the field maximum being achieved by semi-monthly downward revisions of the per-well daily allowable as new wells come in and claim their share of the total. During the first half of July each well will be allowed to produce 50 barrels daily, as compared with 51 barrels during the latter half of June.

About a week before the end of June the railroad commission had precipitated much misgiving and foreboding by announcing that it had prepared and was on the verge of signing a new proration order involving a new plan for the East Texas field: a program under which there would have been no field maximum—merely a flat per-well quota of 51 barrels daily throughout July and August. It was generally believed that production under that plan would have reached 400,000 barrels daily by September 1.

During the week ending July 1 there was no appreciable increase in production of the East Texas field over the figure for the preceding week, and other fields in the state likewise registered no important fluctuations in output.

Curtailment is now being applied to an increasing extent in the fields of the Eastern States. It is proposed that during July the production in southwestern Pennsylvania, southeastern Ohio and West Virginia will be restricted to 75 per cent of that in November, 1931.

For the week ending July 1 crude oil production in the Eastern States, amounting to 122,300 barrels daily, represented a decrease of over 2000 barrels as compared with the average for the previous seven days.

THE OIL WEEKLY
(Estimated Daily Average Production)
Week Ending July 2, 1932

	For Week Ending July 2	For Week Ending June 25
Texas Panhandle	53,150	52,100
North and West Central Texas	73,800	73,850
West Texas	176,350	176,200
East Central Texas	56,600	55,400
East Texas	331,800	331,800
Southwest Texas	56,350	52,325
Total Texas, outside of Gulf Coast	748,050	741,675
Texas Gulf Coast	112,850	112,120
Total Texas	860,900	853,795
Oklahoma City	66,200	95,250
Seminole	132,500	135,300
Other Oklahoma	193,750	192,000
Total Oklahoma	392,450	422,250
Ritz-Decker	11,000	12,850
Voshell	6,150	6,100
Other Kansas	79,650	79,150
Total Kansas	96,800	98,100
North Louisiana	28,475	28,375
Louisiana Gulf Coast	31,100	33,400
Total Louisiana	59,575	61,775
Arkansas	33,675	33,700
Long Beach	67,500	69,500
Santa Fe Springs	58,000	57,500
Midway-Sunset	49,000	50,500
Kettleman Hills	60,500	60,000
Other California	220,000	226,500
Total California	455,000	464,000
Wyoming	35,010	35,275
Montana	7,200	6,720
Colorado	2,960	2,990
New Mexico	34,920	34,080
Total Rocky Mountain States	80,090	79,065
Eastern States*	122,300	124,700
Total United States	2,100,790	2,137,385

*Includes Michigan.

Gasoline Stocks Continue Fall With Runs Curtailed

IN accordance with general expectations, refinery operations declined considerably following effectiveness of the new federal gasoline tax on June 21; and although including two pre-tax days, the week ending June 25 brought about a decline of 93,900 barrels in average daily crude runs to stills as compared with the previous week, the figures being based on A. P. I. estimates, with 95.1 per cent of plants reporting in each instance.

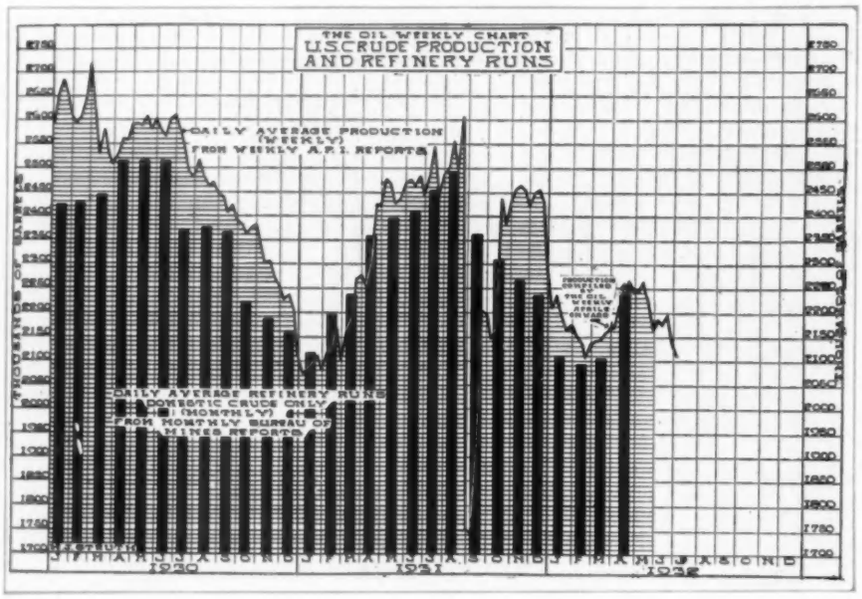
Galosine stocks in the meantime were drawn upon, furthermore, at only a slightly lowered average rate for the week ending June 25 than during the full tax-rush week which preceded. The motor fuel stocks at refineries June 25 amounted to 38,913,000 barrels, as against 41,262,000 barrels June 18 and 43,911,000 barrels June 11.

Census Shows 318,242 Places to Buy Gasoline

OF the 318,242 places where gasoline is sold in the United States only 122,524 are drive-in service stations. These figures are from the census report of 1929 recently released through the Department of Commerce.

The remaining outlets are divided among garages and parking stations, motor car dealers, tires and accessory stores, country general stores, grocery stores, hardware stores and other merchandising outlets, whose major business is not that of selling petroleum products.

The number of outlets at retail establishments of this sort is 28 per cent of the total. In general an outlet of this sort consists of one or two gasoline pumps placed near the building which


THE OIL WEEKLY CHART
U.S. CRUDE PRODUCTION AND REFINERY RUNS
DAILY AVERAGE PRODUCTION (WEEKLY) FROM WEEKLY A.P.I. REPORTS
DAILY AVERAGE REFINERY RUNS (DOMESTIC CRUDE ONLY) (MONTHLY) FROM MONTHLY BUREAU OF MINES REPORTS
THOUSANDS OF BARRELS
1930
1931
1932

houses the principal activity of the concern.

New York leads with total outlets at 21,181. Pennsylvania is second with 19,910 and Texas comes third 19,835. An interesting development along this line is the recent statement that indications are that 40,000 permits to maintain a place to sell petroleum products will be issued in New York state. A new law there requires payment of a fee and an accurate check of the number in New York will be available when it has been completed.

Comparison of Permits Granted for New Wells

State	For week ending July 1	Total this month	Total this year	Total to date last year	1931 year total
Arkansas	0	1	9	23	34
California	4	21	165	224	342
Louisiana	15	58	247	179	309
Kansas	12	73	307	247	475
Oklahoma	21	128	559	507	842
Texas	198	1119	4454	2954	6961
Totals	250	1400	5741	4134	8963

Summarized Review of Field Results

	Completions	Oil Wells	Gas Wells	Failures	Initial Prod.
Arkansas	2	0	0	2	0
California	10	3	0	7	5,000
Illinois	0	0	0	0	0
Indiana	0	0	0	0	0
Kansas	19	14	0	5	4,310
Kentuky	15	8	0	7	213
Louisiana	8	5	0	3	5,275
Michigan	4	2	0	2	1,000
Mississippi	0	0	0	0	0
New Mexico	2	2	0	0	13,932
New York	1	0	1	0	0
Ohio	12	4	5	3	27
Oklahoma	28	18	3	7	9,584
Pennsylvania	5	1	2	2	8
Texas	190	170	1	19	1,173,052
W. Virginia	3	2	1	0	3
Miscel.	4	2	0	2	16
Totals	303	231	13	59	1,212,420

Hobbs Field Allowable For July Unchanged

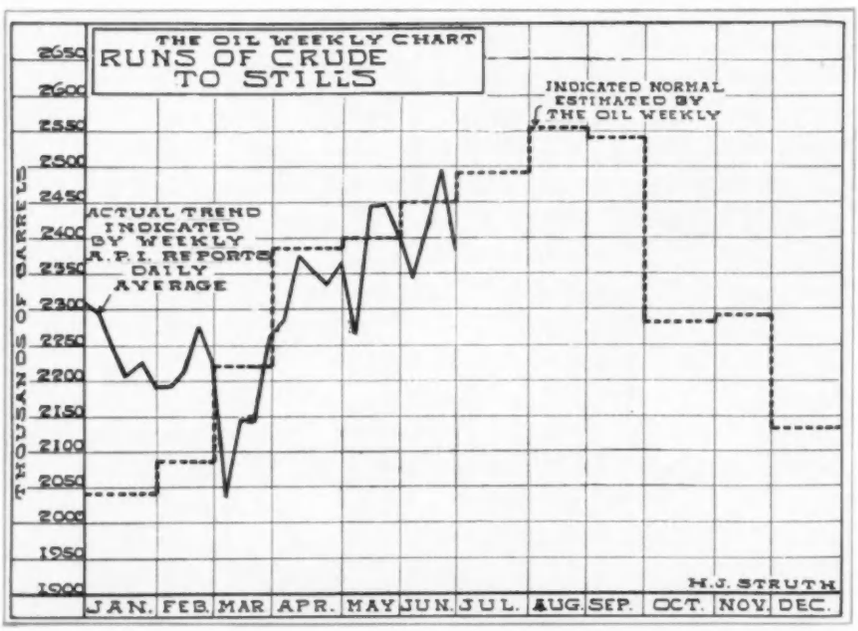
Dallas, Texas.—Hobbs fields allowable production for July will remain practically unchanged as result of Shell Petroleum Corporation having agreed to increase its takings so as to offset the 3500-barrel reduction in daily runs requested by Atlantic Oil Producing Company effective July 1. The latter had requested relief from 4500 barrels, thus lowering its taking from 8500 to 4000 barrels daily but compromised on the matter during a proration meeting operators held here June 30.

Preliminary figures indicate an allowable of about 29,450 barrels daily for the field and Shell Petroleum Corporation's share will be about 14,000 barrels.

Fruitvale Activity Appears Set for the Summer

Bakersfield, Calif. — New locations in the Fruitvale field are easily equalling completions, and it looks as if the present level of field work will be maintained during the remainder of the summer. Two or three operators are frowning on development under existing conditions, but the necessity for offsets has forced action on nearly all companies' part. The oil is heavy and contains very little gasoline, but it makes a fair fuel oil. Production of natural gas is very low, when the action of the wells is considered. Initial production of 3000 barrels has been recorded, but the gas volume has been negligible. Such a flow without gas is unusual. A dozen wells are under way and several locations are being considered by small companies that are anxious to develop a larger production. The demand for Fruitvale oil has been none too good, and since a larger production has been developed than can be marketed readily, operators should take the hint and limit drilling to actual needs.

Austin, Texas.—The Texas Railroad Commission has ordered hearings on July 11, on Yates, Van, the Gulf Coast fields, and Southwest Texas.


THE OIL WEEKLY CHART
RUNS OF CRUDE TO STILLS
INDICATED NORMAL ESTIMATED BY THE OIL WEEKLY
ACTUAL TREND INDICATED BY WEEKLY A.P.I. REPORTS DAILY AVERAGE
THOUSANDS OF BARRELS
H.J. STRUTH
JAN. FEB. MAR APR. MAY JUN. JUL. AUG. SEP. OCT. NOV. DEC.

Crude Runs to Stills, Motor Fuel Stocks, Gas and Fuel Oil Stocks and Cracked Gasoline Production, as compiled by A. P. I. for Week Ended June 25, 1932

(Figures in barrels of 42 gallons)

DISTRICT	Daily Refining Capacity of Plants			Crude Runs to Stills		MOTOR FUEL STOCKS					Gas and Fuel Oil Stocks	Daily Charging Capacity of Cracking Units			Cracked Production Daily Average
	Potential Rate	Reporting Total	Reporting %	Daily Average	% Operated	(a) At Refineries	(b) Bulk Terminals	(b) In Transit	(c) Other M.F. Stocks	Total Motor Fuel		Potential Rate	Reporting Total	Reporting %	
East Coast	633,700	633,700	100.0	498,000	78.6	5,883,000	10,590,000	2,326,000	445,000	19,244,000	7,199,000	261,300	236,300	94.1	87,400
Appalachian	149,600	137,400	91.8	101,300	73.7	1,489,000	465,000	10,000	340,000	2,304,000	1,075,000	56,300	54,100	96.1	26,400
Ind., Ill., Ky.	436,300	431,500	98.9	290,800	67.4	5,398,000	2,354,000	31,000	275,000	8,058,000	4,139,000	330,400	315,400	95.5	87,600
Okla., Kans., Mo.	485,700	435,200	89.6	217,600	50.0	3,101,000	965,000	.....	1,030,000	5,096,000	3,408,000	237,800	219,500	92.3	49,900
Inland Texas	305,700	233,900	76.5	106,600	45.6	1,312,000	41,000	.....	405,000	1,758,000	2,554,000	98,400	88,800	90.2	22,600
Texas Gulf	532,500	531,500	99.8	420,600	79.1	5,375,000	101,000	.....	380,000	5,856,000	7,425,000	352,400	347,400	98.6	92,100
Louisiana Gulf	147,500	147,500	100.0	109,800	74.4	1,322,000	175,000	.....	30,000	1,527,000	4,375,000	77,000	77,000	100.0	26,000
North La.—Ark.	85,600	83,000	97.0	50,700	61.1	99,000	52,000	.....	45,000	196,000	774,000	35,400	35,400	100.0	8,600
Rocky Mountain	160,900	143,800	89.4	35,300	24.5	1,818,000	.....	.....	25,000	1,843,000	683,000	99,900	98,400	98.5	9,700
California	914,500	884,100	96.7	481,300	54.4	13,116,000	.....	.....	2,975,000	16,091,000	98,232,000	190,800	190,800	100.0	50,400
TOTALS WEEK: June 25, 1932	3,852,000	3,661,600	95.1	2,312,000	63.1	38,913,000	14,743,000	2,367,000	5,950,000	61,973,000	129,864,000	1,739,700	1,663,100	95.6	460,700
June 18, 1932	3,852,000	3,661,600	95.1	2,405,900	65.7	41,262,000	14,691,000	2,128,000	5,950,000	64,031,000	129,398,000	1,739,700	1,663,100	95.6	452,400

Below is set out an estimate of total motor fuel stocks on U.S. Bureau of Mines basis for week of June 25, 1932, compared with certain June 1931 Bureau figures.

A. P. I. Estimate B. of M. basis Week June 25, 1932 (d)	39,513,000	17,335,000	5,950,000	62,798,000
U. S. B. of M. Motor Fuel Stocks June 1, 1931	45,800,000	13,757,000	4,639,000	64,196,000
U. S. B. of M. Motor Fuel Stocks June 30, 1931	41,198,000	14,139,000	4,828,000	60,165,000

(a) Stocks at refineries, except in California district, which includes stocks of finished gasoline and engine distillate at refineries, at water terminals and at sales distributing stations and any amounts in transit thereto.
(b) By districts, East of California only. In California, bulk terminal and in transit stocks are included under "At Refineries" heading. See note (a)
(c) Estimated. Includes motor fuel in pipe lines and unblended natural gasoline at refineries and plants, also blended M.F. at plants.
(d) Estimated to permit comparison with A. P. I. Economics Report which is on Bureau of Mines basis.

Curtailment in East Texas Holds Back Gas Supply

OVERLOOKING the handicap offered by erratic gas supply from lease connections, the manufacturers of natural gasoline in the East Texas field have 10 plants in operation, or about completed, with prospects of several more plants making a bid for the large, but widely scattered supply of wet gas now available. This field has not attracted plants in numbers that normally would be expected because of proration limiting wells to a comparatively few hours flow daily, thus making it necessary to tie into many wells to assemble any appreciable volume of gas. Another discouraging factor is that the gross gasoline yield averages about six gallons per 1000 cubic feet gas, but the large volume of light fractions lowers the net recovery to slightly less than two gallons.

Second hand equipment has been utilized to a large extent in the construction of all the plants, with old plants in four states contributing materials.

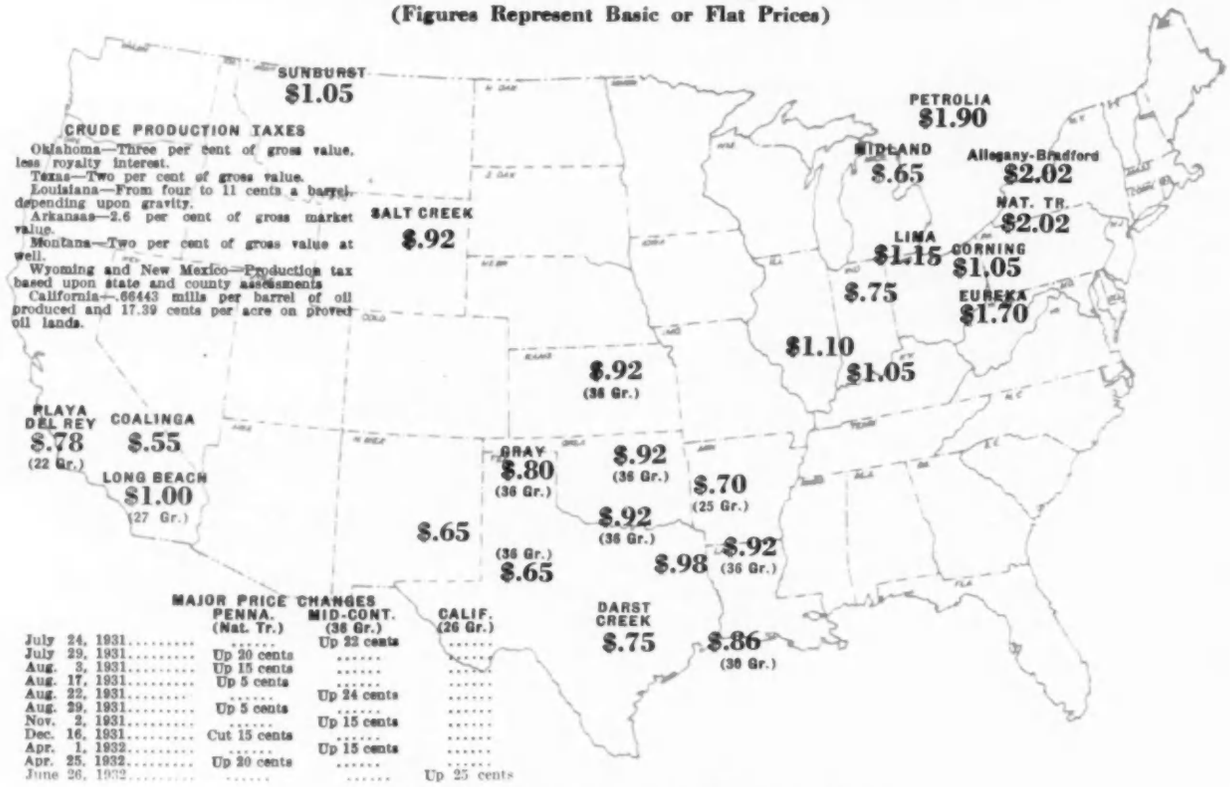
Humble Oil & Refining Company was the first to invade the field with plants, having erected two in Rusk County that are capable of processing 15,000,000 cubic feet of gas daily. These plants were originally planned to serve as a unit in a sand re-pressuring system, but the program was abandoned when severe proration restrictions lowered the available gas supply to an undesired level.

Natural Gasoline Plants in the East Texas Field

Owner—	Location	Process	Daily capacity (cubic ft.)	Present daily prod. in gallons
	GREGG COUNTY			
R. L. Cook	Cox-Hamon 73-ac., J. Ruddle sur.	Abs.	1,000,000	1,500
East Texas Nat'l Gasoline Co.	J. B. Watson 10-ac., J. S. Carruthers sur.	Abs.	4,000,000	Bldg.
Gladewater Gasoline Co.	T. W. Lee 53-ac., L. J. Rigsby sur.	Comp.	2,500,000	3,500
Harmony Gasoline Co.	Maud Smith 60-ac., W. H. Castl'by. sur.	Abs.	6,000,000	12,000
Trapshooter Reilly Oil & Roy. Co.	E. Mitchell 17-ac., J. S. Carruthers sur.	Abs.	1,000,000	Bldg.
	RUSK COUNTY			
Excelsior Refining Co.	Giles 41.7-ac. M. J. Prue sur.	Abs.	4,000,000	
Gulf Production Co.	T. B. Cashen 125-ac., H. B. Dance sur.	Comp.	5,000,000	Bldg.
Humble Oil & Ref. Co.	Ben Laird 15-ac., I. Ruddle sur.	Abs.	5,000,000	2,500
Humble Oil & Ref. Co.	R. E. L. Silvey 25-ac., T. J. Martin sur.	Abs.	10,000,000	4,500
Hirt & MacDermott, Inc.	C. O. Christian 62½-ac., Dan'l Clark sur.	Abs.	4,000,000	Prop.
Lisbon Gasoline Co.	E. E. Moores 182-ac., J. B. Cadena sur.	Comp.	3,000,000	8,000

Crude Oil Price Quotations

(Figures Represent Basic or Flat Prices)



MAJOR PRICE CHANGES

	PENNA. (Nat. Tr.)	MID-CONT. (36 Gr.)	CALIF. (26 Gr.)
July 24, 1931	.....	Up 22 cents	.....
July 29, 1931	Up 20 cents	.....	.....
Aug. 3, 1931	Up 15 cents	.....	.....
Aug. 17, 1931	Up 5 cents	.....	.....
Aug. 22, 1931	.....	Up 24 cents	.....
Aug. 29, 1931	Up 5 cents	.....	.....
Nov. 2, 1931	.....	Up 15 cents	.....
Dec. 16, 1931	Cut 15 cents	.....	.....
Apr. 1, 1932	.....	Up 15 cents	.....
Apr. 25, 1932	Up 20 cents	.....	.....
June 26, 1932	.....	.....	Up 25 cents

Official Postings and Differentials

(Revised to July 1, 1932)

CALIFORNIA: (Effective June 26, 1932).

Signal Hill, Seal Beach, Alamitos Heights, Huntington Beach, Olinda-Brea Canon, Torrance, and Richfield: 14 to 19.9 gravity 65 cents; 20-20.9 gravity 69 cents; 21 gravity 74 cents; 22 gravity 79 cents; 23 gravity 84 cents; 24 gravity 89 cents; 25-25.9 gravity 93 cents, top posting for Torrance and Richfield; 26-26.9 gravity 97 cents, top price for Seal Beach, Alamitos Heights and Huntington Beach; 27-27.9 gravity $1.00; 28-28.9 gravity $1.03, the top price for Olinda-Brea Canon; 29-29.9 gravity $1.06; and 30-30.9 gravity $1.09, the Signal Hill top posting.

Inglewood: 14 to 19.9 gravity 65 cents; 20-20.9 gravity 71 cents; 21 gravity 77 cents; 22 gravity 82 cents; 23 gravity 87 cents; 24-24.9 gravity 92 cents, the top price.

Playa Del Rey: 14 to 19.9 gravity 65 cents; 20-20.9 gravity 69 cents; 21 gravity 74 cents; 22 gravity 78 cents; 23 gravity 82 cents; 24 gravity 86 cents; 25 gravity 91 cents; 26-26.9 gravity 96 cents, the top price. Oil here is subject to field gathering charge of 5 cents a barrel.

Athens, Rosecrans and Dominguez: 24-24.9 gravity 89 cents 25-25.9 gravity 93 cents; 26 gravity 97 cents; and 27-27.9 gravity $1.00 with three cents additional for each degree gravity upward, ending at 32-32.9 gravity $1.15.

Elwood Terrace: 33-33.9 gravity $1.04 and 6 cents more for each additional degree of gravity, ending with 37-37.9 gravity $1.28, all prices f.o.b. ship.

Whittier and LaHabra: 14 to 19.9 gravity 65 cents; 20-20.9 gravity 68 cents; 21 gravity 72 cents; 22 gravity 77 cents; 23 gravity 83 cents; and 24-24.9 gravity 89 cents, the top price.

Montebello: 14 to 20.9 gravity 65 cents; 21-21.9 gravity 67 cents; 22 gravity 70 cents; 23 gravity 73 cents; 24 gravity 76 cents; 25-25.9 gravity 80 cents, the top price.

Coyote Hills: 14 to 20.9 gravity 65 cents; 21-21.9 gravity 66 cents; 22 gravity 70 cents; 23 gravity 76 cents; 24 gravity 81 cents; 25 gravity 86 cents; 26 gravity 90 cents; 27 gravity 94 cents; 28 gravity 98 cents; 29 gravity $1.02; and 30-30.9 gravity, $1.05, the top price.

Santa Fe Springs: 24-24.9 gravity 73 cents; 25 gravity 79 cents; 26 gravity 84 cents; 27 gravity 89 cents; and 28-28.9 gravity 94 cents, with 4-cent differential for each degree of gravity upward to 35-35.9 gravity $1.22.

Newhall, McKittrick and Kern River: 14 to 19.9 gravity 55 cents.

Midway-Sunset, Elk Hills and Buena Vista: 14 to 19.9 gravity 55 cents; 20-20.9 gravity 59 cents; 21 gravity 63 cents; 22 gravity 69 cents; 23 gravity 75 cents; 24 gravity 81 cents; 25-25.9 gravity 87 cents and 5-cent differential for each additional degree gravity ending with 30-30.9 gravity $1.12.

Lost Hills: Same as Midway-Sunset up through 25-25.9 gravity 87 cents, then 26-26.9 gravity 91 cents; 27 gravity 94 cents; 28 gravity 99 cents; 29 gravity $1.02; and ending 30-30.9 gravity $1.05.

Coalinga: 14 to 19.9 gravity 55 cents; 20-20.9 gravity 59 cents; 21 gravity 62 cents; 22 gravity 65 cents; 23 gravity 68 cents; 24 gravity 72 cents; and ending 25-25.9 gravity 75 cents.

Wheeler Ridge: 14 to 19.9 gravity 55 cents; 20-20.9 gravity 57 cents; and 21-21.9 gravity 60 cents, with 3 cents more for each additional degree of gravity, ending 25-25.9 gravity 72 cents.

Below 29 gravity: 76 cents with differential of 2 cents for each degree to 40 gravity and above which is posted at $1.00.

Texas Panhandle: (Effective April 1, 1932)

Gray County: Below 35 gravity: 71 cents, with differential of 2 cents for each degree to 40 gravity and above which is posted at 88 cents.

Carson and Hutchinson Counties: Below 35 gravity: 66 cents with differential of 2 cents for each degree to 40 gravity and above which is posted at 78 cents.

West Texas: (Effective April 1, 1932).

Crane-Upton, Crockett, Ector, Howard-Glasscock, Pecos and Winkler Counties, Texas, and Lea County, New Mexico: 65 cents a barrel.

Southwest Texas: (Effective April 11, 1932)

Refugio: Heavy 80 cents.

Refugio: Light: (Same as Gulf Coast—see below).

Gulf Coast: (Effective April 1, 1932).

Goose Creek, Hull, Liberty, Orange, Pierce Junction, Mykawa, Moss Bluff, Raccoon Bend, Barbers Hill, Sour Lake, Spindletop, Sugarland, West Columbia, Humble and Refugio Light: Below 25 gravity: 80 cents, with differential of 1 cent for each degree to 40 and above which is posted at $1.00.

Mirando: 80 cents; **Salt Flat:** 75 cents; **Darst Creek:** 75 cents; **Pettus:** $1.00; **Markham:** Same as Gulf Coast.

East Texas: (Effective April 1, 1932)

Flat Price: 98 cents.

North Louisiana and Arkansas: (Effective April 1, 1932).

Caddo, Homer, Haynesville, Bull Bayou, Sabine, Cricton, De-Soto, El Dorado, Cotton Valley, Sarepta, Cartersville: Below 25 gravity 68 cents with differential of 2 cents for each degree beginning with 25 gravity and ending with 40 and above. Top price $1.00 a barrel.

Smackover: 65 cents.

Rocky Mountain States: (Effective April 11, 1932).

Salt Creek: Below 29 gravity 76 cents; 29-29.9 gravity 78 cents with differential of 2 cents each degree to 40 and above. Top price $1.00.

Elk Basin and Grass Creek: $1.20; **Big Muddy:** 98 cents; **Lance Creek,** $1.15; **Rock Creek:** $1.00; **Sunburst:** $1.05; **Osage:** 98 cents; **Cat Creek:** $1.20; **Pondera:** 90 cents; **Hogback, New Mexico:** 80 cents.

Mid-Western States: (Effective April 11, 1932).

Lima: $1.15; **Indiana:** 75 cents; **Illinois:** $1.10; **Princeton:** $1.10; **Wooster:** $1.25; **Western Kentucky,** $1.05.

Pennsylvania: (Effective April 25, 1932).

Bradford District: $2.02; **National Transit Oil:** $2.02; **Southwest Pennsylvania Pipe Line Oil:** $1.75; **Eureka Pipe Line Oil:** $1.70; **Buckeye Pipe Line Oil:** $1.55; **Corning Crude:** $1.05.

Michigan: (Effective May 17, 1932), **Midland:** 65 cents a barrel. **Muskegon:** 76 cents to $1.00 a barrel.

Canada: (Effective Nov. 3, 1931).

Petrolia: $1.90; **Oil Springs:** $1.97.

Three Types of Fields Productive In South Central Texas

JACK LOGAN
Staff Representative

THE importance which Texas has attained as an oil producing state is not based altogether upon the spectacular fields which have made their way into the headlines, but also in large measure upon numerous smaller fields which have had less prominent roles. Individually, those smaller fields have not been of great importance, but collectively, they have had impressive production histories.

Such cumulative importance of individually small fields is illustrated in the accompanying production statistics of South Central Texas, the fault line area extending northeasterly from San Antonio on the one hand and westerly from that city on the other—a belt about 50 miles wide, adjacent to the Balcones fault.

Within that belt have been found only three oil fields of major importance: Luling, Salt Flat, and Darst Creek, the three having produced approximately 98,000,000 barrels of oil to the end of 1931. Yet the whole region at the same time had to its credit an additional 25,000,000 barrels of oil despite its lack of other fields of noteworthy individual importance, that total coming from 18 different fields, with the individual total recoveries ranging from a few thousand to several millions of barrels.

As indicated previously, all of the established fields of South Central Texas are related to the Balcones fault, a great earth fracture which extends for many miles: out of Northeastern Texas, through the vicinities of Waco, Belton, Austin, San Antonio, Uvalde, and on to Del Rio, and which manifests itself conspicuously at the surface in the Austin-San Antonio country in the form of a high, eastward-facing escarpment. The forces which caused that great fault, regarded as probably a vast slippage of sediments seaward or southeastward, also resulted in minor parallel faults and lines of weakness for over 50 miles to the eastward. It is within that belt east of the Balcones fault that the fields herewith called South Central Texas are located.

While they are all related to the Balcones system of faulting, these fields are of different nature with respect to producing formations, however, falling within three distinct classifications. Each field of the district may be placed in one of these three groups.

Naming them in the chronological order in which they were established as sources of oil, the three types of fields are as follows:

(1) the serpentine pools, of which the first was Thrall, found in 1915;

(2) the shallow sand pools, dating from discovery of Somerset in 1918; and

(3) the Edwards lime pools, first represented by Luling, which was opened in 1922.

Serpentine Pools

Fields of the first group produce from plugs or "mushrooms" of serpentine (altered igneous rock), that material having been pushed up from unknown depths much as salt has been pushed up in the Texas-Louisiana Gulf Coast region to form salt domes. The oil is found in the serpentine, which is porous to different degrees, although it is believed that the petroleum originated in the adjacent shales. Depths of the wells range from 700 feet (at Thrall) to 2250 feet (at Dale.)

There are six of the serpentine pools in South Central Texas, all located within three adjacent counties: Thrall and Chapman in Williamson County, Yoast in Bastrop County, and Buchanan, Dale and Lytton Springs in Caldwell County. These six fields had produced nearly 13,000,000 barrels of oil at the end of 1931. While Lytton Springs has led the group in total recovery, having produced over 6,500,000 barrels, the relatively new Chapman field is of similar importance and has already yielded around 3,000,000 barrels.

Information as to depths of wells, productive area, and gravity of oil for each of the serpentine fields is herewith tabulated:

Field	Gravity of oil	Depths of wells	Productive area
Buchanan	36-38	1700-2100	150
Chapman	37	1500-2000	375
Dale	38-39	1950-2250	275
Lytton Springs	38-39	1150-1900	1400
Thrall	....	700-1000	475
Yoast	27	1350-1600	100

It is not known exactly what relation exists between the serpentine intrusions and the faults of the Balcones system, although evidence points definitely to the assumption that the igneous mass from which the plugs were derived was forced upward along fault lines either during or after the time at which the faulting occurred. It is believed that the serpentine

FIELDS OF NEW TYPE IN PROSPECT

FROM the standpoint of structure all the established fields of South Central Texas are associated directly or indirectly with the Balcones system of faulting, although the producing horizons are of three separate classifications: serpentine plugs, shallow sands, and Edwards limestone, the latter being of greatest commercial importance.

During the past year and a half, however, wildcat activity in Kerr County, in the "hill country" up on the Edwards Plateau, north and west of the Balcones faulting, has furnished oil showings which may foreshadow important fields of a fourth distinct type—major fields with production from Pennsylvanian or Ordovician formations, which have been prolific sources of oil elsewhere.

Three Main Groups of Oil Fields in South Central Texas

(Based upon distinctive producing horizons: Edwards limestone, serpentine plugs, and relatively shallow sands of Cretaceous age.)

	Barrels Production Through 1931	
A. *Edwards Lime Pools:*		
Branyon	38,265	
Darst Creek-Manford	19,984,596	
Larremore	141,749	
Luling	52,565,405	
Salt Flat	25,494,814	
Total		98,224,829
B. *Serpentine Pools:*		
Buchanan	93,716	
Chapman	2,945,088	
Dale	742,077	
Lytton Springs	6,644,329	
Thrall	1,790,222	
Yoast	695,777	
Total		12,911,209
C. *Shallow Sand Pools:*		
Alta Vista	40,000	
Cooksey	6,220	
Eckert	131,536	
Ina	125,273	
Minerva-Rockdale	2,573,097	
Mission and Gas Ridge	18,000	
Ottine	11,967	
Somerset	8,951,544	
Taylor Pool	17,841	
Yturri-Southton	442,426	
Total		12,317,904
Grand Total South Central Texas		123,453,942

plugs of the described oil fields were probably pushed out upon the sea floor which existed when the last of the Austin Chalk was being laid down, and that the plugs were then covered over with later sediments, the serpentine deposits being reflected at the surface today in some instances because of more pronounced settling in the softer formations surrounding the relatively firm igneous rock. By virtue of the manner in which they were pushed up and out upon the sea-floor, the serpentine plugs are usually in mushroom-like form, thin at the outer edges, but thickening toward the center, with a stem extending on down to unknown depth from the central portion.

Only about one-half of the buried serpentine plugs which have been found have proved productive of oil. Aside from the buried plugs there are also numerous similar bodies at the surface. These buried and surface plugs occur along the Balcones fault zone in more than a dozen counties, from Kinney County eastward to Bexar County and thence northeasterly to Williamson and Bastrop Counties.

Shallow Sand Pools

South Central Texas fields of the second major group, the shallow sand pools, produce from relatively shallow formations lying above the Austin chalk. By the end of 1931 there had been developed 11 of those areas which had produced oil, and several others, as shown on an accompanying map, which were productive only of gas, all these fields being located along the Balcones fault zone, in and between Medina and Milam Counties. The bulk of the total of somewhat over 12,000,000 barrels of oil recovered from these fields through 1931 had come from two fields, Somerset in Bexar and Atascosa Counties and Minerva-Rockdale in Milam County, with recoveries from other fields of the group ranging from a few thousands to one-half million barrels. Those nine smaller fields include: Alta Vista, Cooksey, Eckert, Mission, Gas Ridge, and Yturri-Southton in Bexar County; Ina and Taylor Pool in Medina County; and Ottine in Gonzales County.

The producing horizons of these fields are sands of Navarro and Taylor age. The oil accumulation is usually found along terraces or monoclinal folds which are associated with faulting, with the quantity of the oil depending ordinarily upon lenticularity or other conditions of the sand bodies within which the accumulation has taken place. The sands are commonly characterized by limited gas pressure and small water content.

Somerset ranks first among these fields in area as well as past oil recovery, having length of 12½ miles and width ranging from one-half mile to nearly three miles. Productive area at Minerva-Rockdale includes about 4000 acres. Other information on those two leading fields as well as the others of the same type is herewith tabulated:

Field	Gravity of oil	Producing depths	Producing formation
Somerset	26-40	1400-2100	Taylor
Minerva-Rockdale	38	600-1700	Navarro
Alta Vista	14-18	1000-1150	Austin
Yturri-Southton	34	600- 800	Navarro
Eckert	34	600- 700	Navarro and Taylor
Cooksey	34	1450	Taylor
Ina	17-19	950	Sand
Taylor Pool	19	275	Crevice
Ottine	32	3779	Base of Taylor

Edwards Lime Pools

More directly associated with the faulting of the Balcones system than the above two groups of fields are those of the third classification, the Edwards lime pools. It is this group which has furnished the three South Central Texas fields of major importance: Luling, Salt Flat, and Darst Creek-Manford, in Caldwell and Gaudalupe Counties. Aside from those three prolific fields, Edwards lime production of lesser importance has been developed in two additional pools, Branyon and Larremore, both in Caldwell County, but those small fields had produced less than 250,000 barrels of oil by the close of 1931, whereas the three major Edwards lime pools had yielded

SOUTH CENTRAL TEXAS (San Antonio District)

YEAR	Alta Vista	Branyon	Buchanan	Chapman	Cooksey	Dale	Darst Creek	Eckert	Ina	Larremore	Love Ranch	Luling	Lytton Springs	Manford	Minerva-Rockdale
	Bexar County	Caldwell County	Caldwell County	Williamson County	Bexar County	Caldwell County	Guadalupe County	Bexar County	Medina County	Caldwell County	Kerr County	Caldwell County	Caldwell County	Guadalupe County	Milam County
1915															
1916															
1917															
1918															
1919															
1920															
1921															1,000
1922												2,000			93,600
1923									**			2,248,000			230,462
1924									**			11,134,000			218,439
1925									**			9,706,346	2,570,709		253,366
1926									**			7,832,575	1,955,555		348,266
1927						60,318			**			5,871,132	742,193		481,162
1928		13,890				306,373		1,000	**	37,388		5,016,889	484,217		308,800
1929		10,521	7,328			172,157	146,754	10,000	†115,000	64,627		4,195,473	353,624	70,379	290,000
1930		9,379	56,347	1,775,503	1,722	109,963	11,588,975	49,000	5,163	20,221		3,603,713	292,784	158,727	213,852
1931	40,000*	4,475	30,041	1,169,585	4,498	93,266	7,971,394	71,536	5,110	19,513		2,955,277	245,247	48,367	134,150
TOTAL	40,000	38,265	93,716	2,945,088	6,220	742,077	19,707,123	131,536	125,273	141,749		52,565,405	6,644,329	277,473	2,573,097

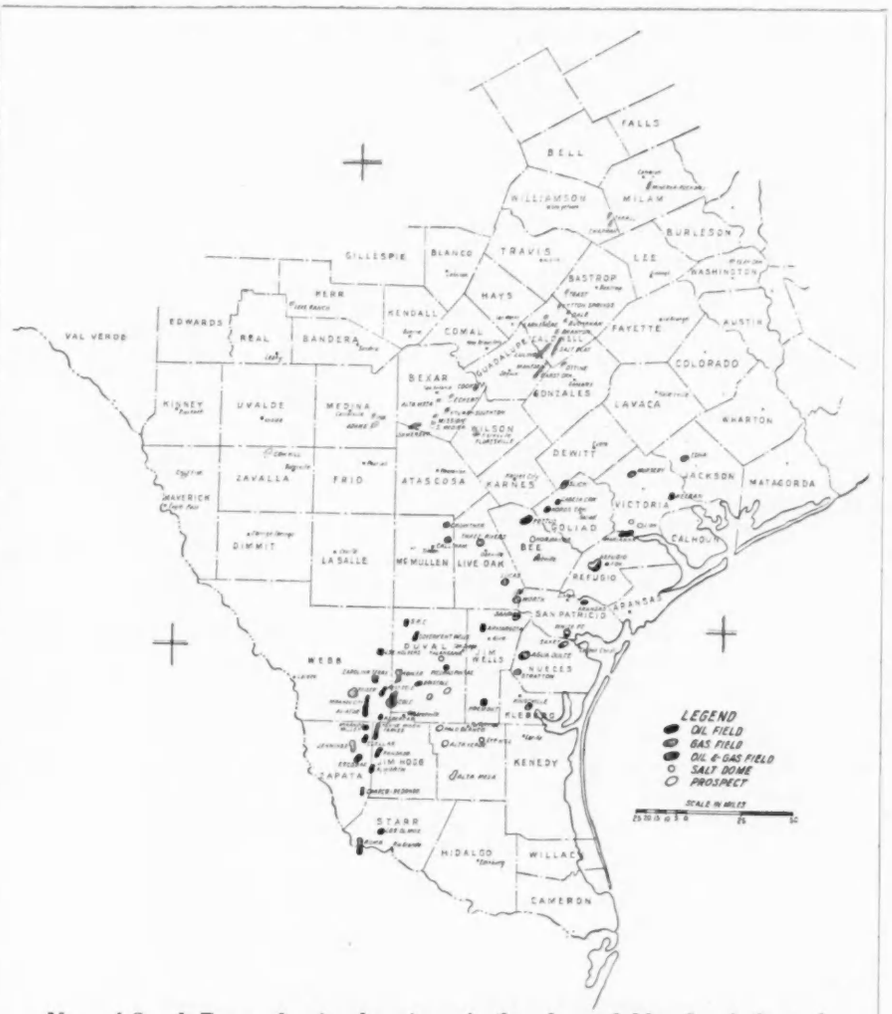
over 98,000,000 barrels, with future production expected to increase that total ultimately by about 50 per cent.

The primary faulting of the Balcones system is roughly along the line previously mentioned, through McLennan, Bell, Williamson, Travis, Hays, Comal and Bexar Counties, and thence westward through Medina, Uvalde, and Kinney Counties. It is that primary faulting which is expressed at the surface by the abrupt eastward or seaward-facing escarpment. Immediately northward and westward are the limestone hills of the Edwards plateau, while on the other side of that pronounced fault line lie the blacker, flatter lands of the edge of the coastal plains.

The faults, one or several in number, of the above conspicuous fault line are normal faults thrown down to the south and east, or toward the sea, the displacement being in many instances more than 500 feet, and such that for the downthrown side of the fault the Edwards limestone is much below its normal position, while the Austin chalk, ordinarily lying considerably above the lime, is lowered to such extent as to be left in contact with that portion of the Edwards limestone found on the other side of the fault.

Southward and eastward from the described line of primary faulting and running parallel with it in a zone or belt about 50 miles wide, are numerous secondary faults, with displacement ranging from a few feet to as much as 500 feet, and with the down throw side most commonly, although not always, to the north and west, rather than in the other direction, as in the primary faults. The explanation has been offered that the primary, major faulting occurred originally to relieve tension of the rock strata caused by elevation of the inland portion of the discussed region and the accompanying tilting or slippage of the formation toward the sea; and that the secondary faulting farther south and east occurred as an adjustment or settling down process following the original relatively violent fracturing.

It is on those secondary faults, with the downthrow to the north and west, that the Edwards lime oil fields are located. The production is found on the upthrow side of the fault, coming from the porous Edwards limestone, which has been left by the faulting in contact with impervious Austin chalk.



Map of South Texas showing location of oil and gas fields. South Central Texas fields related to the Balcones Fault are shown in red.

SOUTH CENTRAL TEXAS (San Antonio District)

YEAR	Mission and Gas Ridge	Ottine	Salt Flat	Schimmel-Batts	Somerset	Taylor Pool	Thral	Yoast	Yturri-Southton	Total South Central Texas
	Bexar County	Gonzales County	Caldwell County	Bastrop County	Bexar and Atascosa Counties	Medina County	Williamson County	Bastrop County	Bexar County	
1915							613,182			613,182
1916							432,695			432,695
1917							176,887			176,887
1918					58,400		137,000			195,400
1919					94,100		91,200			185,300
1920					245,135		60,000			305,135
1921					482,340		73,280			556,620
1922					955,510		51,100		**	1,102,210
1923					1,335,499		34,210		**	3,848,171
1924					1,023,157		24,930		**	12,400,526
1925					1,115,626	**	16,935		**	13,662,982
1926					789,627	**	15,500		**	10,941,523
1927					754,271	**	13,200		**	7,922,276
1928			290,535		670,495	**	12,903	5,272	**	7,147,762
1929		1,500	13,476,120		475,000	12,000†	12,500	475,944	342,596†	20,231,523
1930		10,467	7,325,448		528,604	2,921	12,200	151,512	50,204	25,966,705
1931	18,000*		4,402,711		423,780	2,920	12,500	63,049	49,626	17,765,045
TOTAL	18,000	11,967	25,494,814		8,951,544	17,841	1,790,222	695,777	442,426	123,453,942

*Also includes production of previous years, back to about 1912.

**Included below with figure marked "(†)".

†Also includes production of previous years marked "(**)".

Oil is likewise found to some extent in cracks or cavities in hard lime or chalk immediately adjacent to the fault plane, such crevices having been caused by the faulting.

Since the various fields are located at different distances inland the Edwards lime producing horizon is found at different depths, and gravity of the oil varies with the depths. Thickness of the productive horizon in the lime ranges from a few feet to about 40 feet. General information about the several Edwards lime fields is herewith presented in tabular form.

Field	Gravity of oil	Depths of oil wells	Productive area: acres
Luling	27-29	2200	2125
Salt Flat	36-38	2700	1050
Darst Creek-Manford	37	2600	1500
Branyon	30	2350	10
Larremore	23	1300	50

The faults along which these oil fields are found are manifested conspicuously in sub-surface formations, and in most instances they are reflected also at the surface. In exploring for new fields, therefore, both sub-surface and surface indications are sought, although the former are usually more dependable. Salt Flat was discovered through sub-surface information, the logs of old wildcat tests furnishing the clues, but Darst Creek was found through surface evidence of a closed fault.

The evidence of one of these faults which the geologist finds at the surface is in the form of steeply dipping beds, repetition of formations, exposures of fault planes, and unusual swings in formation contacts.

For oil to have accumulated along one of these faults, however, it must have definite closure; and even with the closure existing, there is sometimes not an accumulation of oil.

Oil Possibilities of Edwards Plateau

All of the established oil and gas fields of South Central Texas are included in the above discussion. All of them, incidentally, are south and east of the main Balcones fault line, lying within a 50-mile belt coastward from that main fault line.

Immediately north of that major faulting, however, is another region which might be classed as a part of 'South Central Texas"—the "hill country" at the southern border of the Edwards Plateau. While it is not affected by the faulting that is responsible for oil accumulation in the discussed proven fields, the plateau region deserves some comment here by virtue of its geographic rating as a part of South Central Texas.

That "hill country" is a great expanse of virgin land from the standpoint of oil exploration, and it may be expected to furnish oil fields of importance. It has already given some very intriguing encouragement, in fact, in the form of small production from a sand of the Pennsylvanian formation and a good showing from the Mississippian formation (or the Ellenberger lime of Ordovician age) developed within the past year and a half in western Kerr County. The region which is here discussed includes the northern portions of Bexar, Medina, Uvalde and Kinney Counties, and Comal, Kendall, Bandera, Kerr, Real and Edwards Counties.

The first definite promise of oil production in the "hill country" came late in 1930 with completion of L. L. Evans and associates' Jeff Love 1, in western Kerr County, near the Real County line. It originally produced around 50 barrels of 40 gravity oil daily, by pumping, along with salt water, from Pennsylvanian sand at 3374-3391 feet.

Located well back on the Edwards Plateau, about 100 miles northerly and westerly from the Balcones Escarpment, the Kerr County discovery well had a surface elevation of 2310 feet. The first three formations penetrated were all of the Lower Cretaceous. Edwards lime was the surface formation; Glen Rose lime was topped at 470 feet; and the top of the Trinity, basal Lower Cretaceous, was encountered around 1000 feet. Top of Pennsylvanian was around 1340 feet. Thus the well had penetrated approximately 2000 feet into the Pennsylvanian when the producing horizon was encountered, although an oil showing of lesser importance was found in the meantime around 2500 feet.

Further development which that original oil well induced has failed to establish commercial importance of the Pennsylvanian producing horizon, but it has resulted in additional encouragement, revealing presence of oil in another, deeper horizon. Evans and associates' Jeff Love 2, located one-half mile southeast of the discovery well, in January, 1932, yielded some 31.5 corrected gravity oil from a formation at 5835-5839 feet. There was doubt at first as to whether the producing horizon was in the Mississippian series, which was topped at 5540 feet, or in the Ellenberger lime of the Ordovician, but the former identification finally came to be generally accepted. The Ordovician is the producing formation of the 8500-8900-foot wells in the Big Lake field, located about 200 miles farther west. This deep Kerr County well, Love 2, began showing some salt water, which it was believed, however, may have come from an upper, ineffectually shut-off sand. After being deepened to 5879 feet, the test was finally abandoned about April 1, 1932.

The above interesting pioneer tests were located within a short distance of a surface anticline which straddles the Kerr-Real County line, and on which The Texas Company and other operators hold leases. There are many other such surface structures, with irregular shaped anticlines and uneven domes as predominating types, in the "hill country," and it is believed that at least some of them may produce oil or gas.

A serious handicap which the explorer faces, however, is the great unconformity between the Cretaceous formations at the surface and the underlying Pennsylvanian, and also between the shales of the latter and the Ordovician which lies still farther down. Structures which are mapped on the surface in the Cretaceous, therefore, can hardly be expected to conform accurately with Pennsylvanian or Ordovician structures which may lie below.

Here is the discovery well of Darst Creek field, Guadalupe County, one of several prolific areas of South Central Texas producing from the Edwards limestone. This original producer, photographed after it had declined to the pumping stage, is The Texas Company's Dallas Wilson 1, completed in July, 1929.

In Pennsylvania, Ohio, West Virginia and Kentucky . . .

FIRST CHOICE: The OIL WEEKLY

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Simple and Inexpensive Method of

Orienting Drill Pipe

LEW SUVERKROP

IT is understood by the writer that the method of orienting drill pipe illustrated by the accompanying photographs has been in occasional use during a period of over 15 years. The purpose of these notes is merely to record a method warranting somewhat more frequent use on occasions when the employment of other orienting methods would be uneconomical. It is not a new method or one that can economically replace established services for well surveying. At the operation illustrated, the method was used by a large California operator for obtaining an oriented core.

It could also be used for obtaining an oriented acid bottle or orienting a whip-stock into a well. It is a positive and simple method, and requires no special apparatus other than an ordinary surveyor's transit.

A stencil is made from a piece of tin plate like that shown in the photographs. The openings in the stencil are semicircular in shape, with a diameter of about one inch. These openings are placed so that their straight edges are parallel and about one eighth-inch apart. The blank space between the two semicircles forms the indicating mark used in the method. Otherwise, the exact shape and size of the openings is not important.

The stencil is held on the tool joint of each stand pulled form the well, and the joint is marked with white paint. Before marking, the position of the stencil upon the tool joint is determined by a transit which is set up at some distance from the derrick. The transit is placed so that observation may be made on both ends of each stand. This is suggested in one of the accompanying photographs.

Coming out of the hole, the first tool joint is marked so that the indicating mark of the stencil coincides with the line of sight through the transit and the center of the drill pipe. This is accomplished by making the vertical cross hair bisect the width or outside diameter of the tool joint. To save time in making this estimate a transit with multiple vertical cross hairs is desirable but not essential. The stencil is moved from side to side, until it is centered in accordance with the signals from the transitman. In orienting a core out of the hole it is important that the initial mark be placed before the core is pulled or separated from the formation. A similar precaution is taken before orienting an acid bottle out of the well.

After the stand is lifted into the derrick the drill pipe is

An ordinary transit is set up at some distance from the derrick. The position chosen is such that both top and bottom tool joints of each stand can be seen through the derrick.

The stencil is made with two semi-circular openings so that the blank space between them forms the indicating mark. The vertical cross hair of the transit is centered on this mark.

Positive Results Can Be Secured

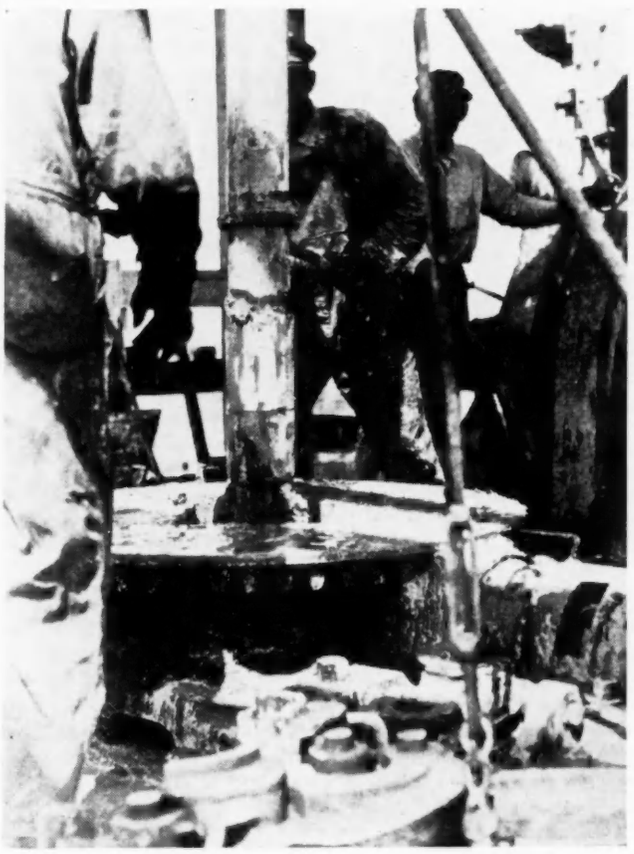
With Surveyor's Transit

The top tool joint of each stand is marked before it is pulled. Paint is used, with a simple stencil made of tin plate.

turned with pipe tongs so that the indicating mark again lies in the line of sight from the transit through the center of the drill pipe. In this position the pipe is set down on the slips. The orientation of the mark up in the derrick is checked and the pipe reorientated if necessary. As soon as the pipe rests in the slips in the properly oriented position, the stencil is applied to the top tool joint of the next stand. The joint is broken and the operation of orienting each stand is repeated until the bit appears. This also is marked before breaking down.

In taking an oriented core a line is marked on the side of the core as it is ejected from the barrel. This line corresponds to the orienting stencil mark placed on the side of the bit. A similar precaution must be taken with respect to removing an acid bottle and its go-devil. In orienting a whip-stock into a well the process of marking is reversed, and the whipstock must be oriented with respect to the bearing of the line of sight from the transit.

Errors due to improper centering of the stencil and stencil mark are compensating. Inaccuracies due to change in the position of the drill pipe as it is supported in the derrick or upon the slips are small due to the distance of the transit from the derrick, and are consistent with the general accuracy of the method. For ordinary work the bearing of the transit line of sight, which determines the orientation, may be made with the compass on the transit.



After each stand is lifted into the derrick it is turned with tongs until the indicating mark at the top lies in the line of sight from the transit to the center of the drill pipe. Then the pipe is rested on the slips and an orienting mark made on the top collar of the next stand.

CAUSES AND METHODS OF *Combatting* Tank Corrosion

W. F. CLOUD
Associate Professor, Petroleum Engineering, University of Oklahoma

CORROSION of oil field storage tanks may occur in several different forms. In damp climates or where the humidity is high, iron oxide corrosion or "rusting" may amount to considerable. This form of corrosion usually affects only the outside of tank shells and the inside and outside of tank roofs, and it can occur only in the presence of air.

The most serious type of tank corrosion which the producer has to combat usually occurs in the absence of air. This form of corrosion, which will pit and perforate steel at a variable rate, results from chemical reactions of the various elements included in the gases and salt waters that are produced with crude oil. Most authorities on corrosion now generally agree that practically all corrosion which occurs inside of storage tanks is essentially an electrochemical process.

Acid waters and waters that carry certain chemicals in solution which will readily change chemically to form acids are corrosive. For example, oil field brines that contain magnesium chloride when heated, as in treating tanks, will react with the hydrogen and combined oxygen present to form dilute hydrochloric acid, which is an electrolyte. This reaction is illustrated as follows:[1]

$$MgCl_2 + HOH = MgO + 2HCl$$

Also, certain other reactions may occur to form dilute sulphuric acid, another electrolyte. For example, dissolved calcium sulphate in the presence of organic matter and hot water will react, as follows:

$$2CaSO_4 + C + 3HOH = Ca(OH)_2 + CO + 2H_2SO_4$$

The presence of hydrogen sulphide in oil and gas, when heated in the presence of air, will form sulphuric acid and cause rapid corrosion. This reaction may be expressed, as

$$H_2S + 4O = H_2SO_4$$

In addition to the three typical and common reactions illustrated above, Mills[2] lists several others that frequently cause tank corrosion.

Before tank corrosion as a result of electrochemical or galvanic action can occur, certain conditions must exist: water, moisture, or water vapor must be present; chemicals that will react to form an electrolyte must exist; and some substance that is electronegative to the tank plates must be located in or in contact with the electrolyte. The latter essential may exist in the form of iron sulphide scale, localized heterogeneity in the composition of steel plates, mill scale (iron oxide), dented or scratched plates, and bolts or rivets that have different chemical composition from that of the tank plates.

Hydrogen Sulphide Corrosion

The greater portion of rapid and thus expensive tank corrosion has occurred in fields where hydrogen sulphide is produced with the oil and gas. For example, the Texas Panhandle; Howard, Crane, Upton and Reagan Counties of Texas; Augusta and El Dorado, Kansas; Hewitt and Healdton, Oklahoma; the Lima field of Ohio; El Dorado and Smackover, Arkansas; and various fields in California have all produced this gas, and as a result they have been troubled with this type of corrosion. In the majority of these fields the reservoir rocks are limestones. Generally speaking, corrosion due to the presence of hydrogen sulphide is not very troublesome where the production comes from sandstones.

The reactions that cause hydrogen sulphide corrosion in tanks may be summarized, as follows. During the night, when the vapor space above the oil in a tank is cooled sufficiently, air is breathed into the tank through the vacuum relief valve. Part of this air is condensed to water, and collects on the inside of the tank roof or deck. The presence of the moisture and oxygen makes it possible for the corrosive hydrogen sulphide—which is acid in reaction—included as a part of the vapors above the oil, to readily combine with the moisture and the steel deck to form iron sulphide and sulphuric acid. The iron sulphide scale thus formed, being electronegative to iron or steel, provides conditions for rapid corrosion of the roof and sides down to the oil level. The iron sulphide scale that drops from the roof and settles on the tank bottom will cause galvanic action or localized pitting of the bottom plates unless they have been insulated with some sort of protective covering. This type of corrosion has been known to "eat" through tank bottoms within three to six months.

Tank bottoms are often corroded through from the outside when the soil upon which the tanks are set is alkaline. Percolating surface waters that may settle beneath the tank enter into chemical combination with the elements of the soil to form dilute acid waters. The salts of potassium, calcium, sodium, and magnesium, as well as carbonic acid and hydrogen sulphide are often found in waters beneath tank bottoms.

Use of Paints in Combating Tank Corrosion

Various insoluble paints, coal tar, and asphalt have been used to coat the inside of tank decks and tank bottoms with more or less indifferent success. In many instances it has been learned that paints fail to stick or they crack and peel, leaving the tank steel exposed. This may have occurred because the tank bottoms were not thoroughly cleaned and sand-blasted before the application; and perhaps some paints are better than others for this purpose. Covering the bottom of a tank with an inch or two of asphalt makes good insulation against galvanic action, but this method is about twice as expensive as painting. Also since asphalt is soluble in crude oil, the tank bottom must

be constantly covered with a layer of water in order to maintain the oil above the asphalt.

Concrete Tank Bottoms

In the few instances where it has been tried, covering the tank bottom with about an inch of impervious concrete has eliminated bottom corrosion. This method is expensive, and tanks so equipped will have a low salvage value.

At a few tank installations in areas where it was known in advance that the oil to be stored was highly corrosive, the tanks were constructed upon concrete bottoms, no steel bottom plates being used. While this method will eliminate bottom corrosion, it is expensive; and it is difficult to prevent leakage at the junction of the shell and the concrete bottom.

Use of Wood Roofs

While the cost of a wood roof is considerable more than the standard riveted or welded conical roof, it has one outstanding advantage in that it eliminates the formation of iron sulphide scale. However, there has been some objection to wood roofs because they cannot be made vapor-tight. And, several cases are on record where they have been ignited by the heat generated when the iron sulphide scale which had collected on the upper ring of the tank shell came in contact with gusts of air while gaging. Also, the inside of wood roofs will "burn" or decay rapidly in the presence of hydrogen sulphide gas unless they are treated with creosote before being installed. Wood roofs must be well grounded to prevent their being struck by lightning, as a tank so covered becomes a sort of condenser.

Suspended Zinc Plates

Since zinc is electropositive to iron or steel, tank bottom corrosion could be cheaply eliminated by placing long bars of zinc in the salt water below the oil-water contact. The zinc should be placed upon non-conducting stringers or spacers in order to support it two or three inches above the tank bottom, and contact wires could extend from the tank roof to each end of the bars. This should result in galvanic action from the zinc through the salt water to the tank bottom, then up the tank shell to the roof where the current would continue to flow toward the zinc over the contact wires. The top of the zinc plates or bars would have to be covered with several inches of water that is electrolytic.

Use of Aluminum

Hydrogen sulphide corrosion has been materially reduced in several localities by "papering" the inside of the tank roof and the upper ring of the shell with aluminum foil. This is not a very expensive and tedious method if the tank is new, and a good oil-proof adhesive is used.

In April, 1929, a year's test on an all-aluminum 500-barrel bolted tank was completed in Crane County, Texas.[3] The metal used for the roof, shell, and bottom was 0.114 inches thick. The tank was used to receive oil directly from the oil and gas separator. After one year of continuous service, no appreciable amount of corrosion was noted on the roof or shell; but the bottom was destroyed in several places to a depth of about half its thickness. This was believed to have been caused by iron sulphide scale that was dumped into the tank with the oil, and from the steel gaging well and a few steel bolts, both of which had been unthoughtedly installed. It was estimated that the tank would last at least six months longer, which is a good record, considering that the average life of steel tanks in that area is only six months.

Since the oil itself is usually non-corrosive, some experimenting has been conducted to determine if tanks composed of aluminum roofs and upper rings will eliminate the corrosion associated with iron sulphide scale. The bottom of such tanks is steel, as usual. Results to date seem to indicate that such tanks will be satisfactory so far as hydrogen sulphide corrosion is concerned, and they are cheaper than all-aluminum tanks.

In April, 1929, a corrosion test[4] was begun in the Texas Panhandle oil field under the supervision of the U. S. Bureau of Mines in co-operation with Aluminum Company of America, Gulf Production Company, and Parkersburg Rig and Reel Company. In this test a tank battery consisting of an all-aluminum flow tank, two steel stock tanks, and two all-aluminum stock tanks was used. Both of the steel tanks had one coat of aluminum paint inside and outside before leaving the factory, and one of them was given an additional painting on the inside after being erected for the test. The tanks were equipped with thermocouples, recording thermometers, and gas sampling lines. Oxygen, water vapor, and hydrogen sulphide gas were present in the vapor space in variable amounts during the entire test. During the winter months the oil was heated by aluminum steam coils. Iron sulphide scale was permitted to enter the tanks with the oil.

After six months of service the flow tank was found to be in fairly good condition except that portion which had been constantly subjected to salt water. During this time the steam coils had to be repaired several times. This corrosion always occurred at the inlet end of the coils. The aluminum coils were then replaced by steel coils, which were well-covered with aluminum paint. After a few days service this paint had been considerably removed. After four months more of continuous service it was noted that the presence of steel coils in the flow tank had greatly increased the amount and extent of the corrosion. The side sheets were completely perforated where the coils were flanged through the tank shell. During this time the tank bottom had suffered but little interior corrosion.

The two steel stock tanks showed but little corrosion and no failures after 12 months service. Evidently the aluminum paint had protected them. However, in the region below the oil outlet the steel had been reduced in thickness. Some black sulphide scale and iron oxide were noted on the roof, rafters, and bolts. The absence of corrosion on the steel tank bottoms was partly due to the protection afforded by the waxy sediments common to Panhandle crude.

One all-aluminum stock tank portrayed no evidence of corrosion after 12 months service except for some etching in the region subjected to salt water. The aluminum steam coil on this tank had to be repaired once. The other aluminum tank had likewise suffered but little corrosion until two steam coil failures caused them to be replaced with steel coils after six months of service. Six months after this change there was considerably more corrosion of the shell within six inches of the tank bottom.

The results of this test would warrant the conclusions that, (1) no steel-aluminum connections should be made in the presence of salt water, even though the contact is well-insulated; (2) aluminum will effectually resist the ravages of hydrogen sulphide corrosion, but not the corrosion due to highly concentrated salt waters; and (3), the use of steam coils in aluminum or "composition" aluminum tanks is not advisable when salt water is present.

General Suggestive Methods and Conclusions

Since heat accelerates hydrogen sulphide corrosion, it might be well to install flat water-seal roofs on all stock tanks to maintain a more uniform daily temperature; and

thus reduce the amount of water vapor that condenses within the vapor space.

The experiment in Crane County, Texas, would indicate that some means should be provided in hydrogen sulphide areas whereby the iron sulphide scale from the casing and flow line can be filtered out before the oil reaches the flow and stock tanks.

Perhaps it would be less expensive and cause less tank repairs and replacements to use wood tanks when emulsified sulphurous oil must be heat-treated.

It seems feasible that if tank bottoms in areas where corrosion is exceedingly harmful were constructed as a sort of inverted cone and permitted to drain into a sump or pit of considerable size that is made as a part of the bottom, the major portion of the heavier acid and salt waters would naturally drain toward the center and accumulate by gravity. This sludge could then be removed slowly from the bottom of the sump by use of a large pipe and a valve that could be regulated so as to retain practically no water in the tank.

Mills[2] suggests that internal tank corrosion can be reduced by: the maintenance of as little water as possible in storage tanks; dilution of the corrosive waters with fresh water, then draining as much of the diluted mixture as is possible from the tanks; by raising the alkalinity of tank waters by the addition of sodium carbonate; and by maintaining as low temperature as possible within the tanks.

It is manifest that in areas where corrosive oils, gases, and waters are to be stored, only tank steel that is homogeneous in texture and composition should be selected. Also, since the rate of corrosion is measured by comparing the depth of pitting against time, the thickest plates possible should be used. Since tension strains will cause conditions favorable for localized corrosion, the tanks should be erected so as to minimize abnormal tension on bolts, rivets, and tank plates. The interior of such tanks should be carefully painted with some good protective coating. And, it may be well to remember that, since corrosion is more rapid where high temperature exists, it may be the best economy to withstand an abnormal loss due to evaporation from open tanks rather than suffer rapid deterioration of tank plates in tanks of the vapor-proof variety.

[1]De La Coux, H.—"Industrial Uses of Water"—1903, p. 101.
[2]Mills, R. Van A.—"Protection of Oil and Gas Field Equipment Against Corrosion"—U. S. Bureau of Mines Bul. No. 233, p. 15.
[3]Bignell, L. G. E.—"Results of Tests of Aluminum Tank"—Oil and Gas Journal, July 4, 1929, p. 38.
[4]Schmidt, L., Devine, J. M., and Wilhelm, C. J.—"The Use of Aluminum for Oil Lease Tanks"—U. S. Bureau of Mines Report of Investigations No. 3066, 1931.

Spheroid Tanks Require Less Material Per Barrel of Storage

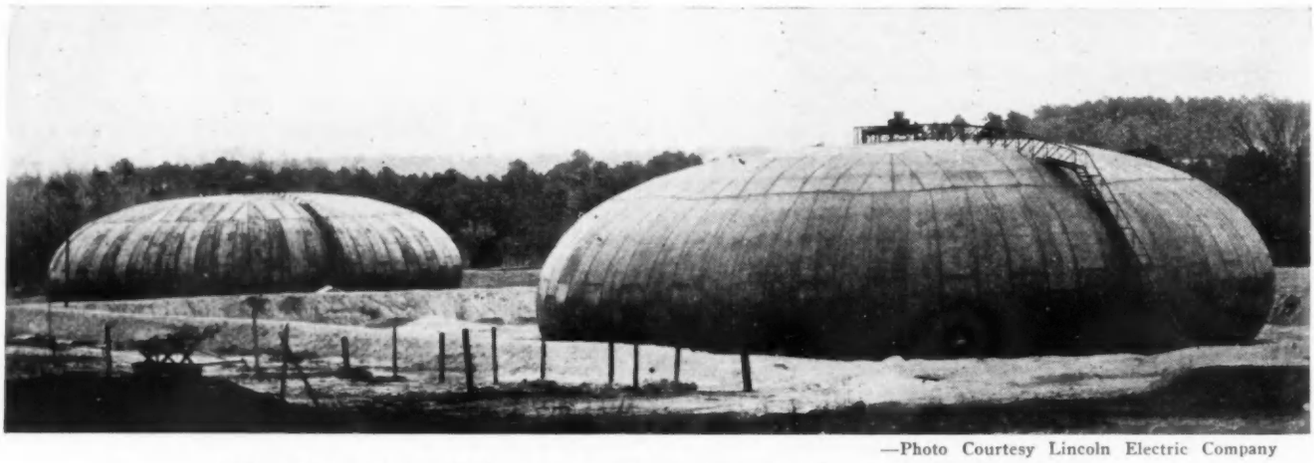
POSSIBILITY of a more widespread use of spheroid tanks for storage of East Texas crude and refined oils may result from the success of two 80,000-barrel "Hortonspheroids" in use at East Texas Refining Company's refinery near Longview, Texas. These spheroids, incidentally, are the largest ever constructed.

These tanks, erected by Chicago Bridge and Iron Works, are 40½ feet high and have a diameter of 136 feet. The flat bottom of quarter-inch plate rests upon graded earth base and supports interior columns which carry the roof. Truss frames are used to reinforce the sides. The shell is three sixteenths of an inch thick, while the roof includes three sixteenths and five sixteenths-inch material.

In theory the spheroids require less material per unit of volume, less labor costs for fabrication and fewer auxiliary items than the conventional tank, according to the manufacturers. Built to withstand a pressure of one pound, they are expected to reduce evaporation losses.

All welding work on East Texas Refining Company's spheroids was done in the field, lap welding by the shielded arc process being employed. No preliminary shop fabrication was necessary.

An interesting feature of the spheroid type is that if the capacity were doubled, the height of the tanks would not be increased; an increased diameter would take care of the additional volume. It is claimed that, due to the double curvature, stresses in a spheroid are less than in a cylinder.



—Photo Courtesy Lincoln Electric Company

Eighty thousand-barrel "Hortonspheroid" tanks at East Texas Refining Company's plant at Longview, Texas.

WORLD PETROLEUM IN REVIEW

Barco Concession Geology Investigation Underway

Cartagena, Colombia.—American Maracaibo Company has acquired a royalty interest in the Barco concession under a contract which it entered with South American Gulf Oil Company and Colombian Petroleum Company. Prompt geological research on the concession is required under a new concession granted by the Colombian government, and that work is to be followed by development of such character that the importance of the concession as an oil producing property should be determined within a relatively short time.

Status of rights of the American group interested there has been cleared through termination of litigation involving the Barco concession.

Mexico Production Is Above Last Year Yield

Mexico City. — Government figures on oil production in Mexico show that the output increased slightly in April over the previous month amounting to 2,922,303 barrels.

Similarly, the output during the first quarter of 1932, amounting to 6,598,083 barrels, represented an increase of 323,286 barrels over that of the same period the previous year.

Advices from Tampico show that crude oil production in the Tuxpan and Panuco regions during week ending May 14 averaged 71,294 barrels daily, which was 2135 barrels less than the daily output the previous week, and 3277 barrels less than for the corresponding week a year ago. The recent daily production figure represented 37,443 barrels heavy oil production and 33,851 barrels light oil.

Colon Producing 15,250 Barrels Daily in Venezuela

Caracas, Venezuela. — Colon Development Company, subsidiary of Colon Oil Corporation, was producing around 15,250 barrels of crude oil in Venezuela at the middle of June, this year.

While the company did no drilling for about eight months of 1931, field work was resumed late in the year at Los Manueles in order to maintain production requirements. Late in May one well, CM-7, was completed there, and another, CM-8 at the same time was drilling at 3644 feet, near expected completion depth.

From the beginning of 1932 to May 21 the company's oil shipments had reached approximately 2,198,000 barrels.

Operations in 1931

Crude oil production of the company in 1931 amounted to 7,490,566 barrels as against 5,070,570 barrels in 1930. The 1931 total was from three fields as follows: El Cubo, 120,316 barrels, Las Cruces, 4,334,623 barrels, and Los Manueles, 3,035,627 barrels. In addition 10,500 barrels of casinghead gasoline was recovered and added to the crude oil for shipment.

Oil shipments from Coloncha (Boca Escalante) terminal amounted to 7,372,626 barrels in 1931, against 4,827,842 barrels in 1930, all being sold to Asiatic Petroleum Company.

Drilling operations in 1931 included those at Las Cruces, where four new wells and one which had been deepened were completed as producers, this rotary-tool work all being done before the end of March and through operation of four rigs, and a total of 7467 feet being drilled in the year. Field work in 1930 had been much greater, involving completion of 26 wells through drilling a total of 62,229 feet. At the end of 1931 production was being obtained from 16 flowing wells at Las Cruces.

In Los Manueles field, in contrast, field work in 1931 exceeded that of the previous year, the footage drilled being 10,555 feet and 5803 feet, respectively. At the end of the year there were four flowing wells in the field.

There was no drilling in the El Cubo region in 1931, but two wells were drawn upon for small production for local consumption in the field and pipe line pumping stations. The Oro and Rosario fields were closed down throughout the year.

Decreased German Imports Reflect Conditions

Berlin, Germany. — Reflecting a decrease in consumption caused by the economic depression, rather than any material increase in German production, imports of crude oil products of all kinds to Germany declined materially during the first quarter of 1932.

A total of 0.48 million metric tons, worth 27.89 million R. M., were imported during that period, against 0.63 million metric tons, worth 70.06 million R. M., for the same period in 1932.

Of these imports especially a decrease of gasoline was noted. In the first quarter of 1932 there was imported only 61 per cent as much gasoline as in the same period of 1931.

Gasoline imports from the United States during the first quarter of 1932 were only 40 per cent as high as in the corresponding period of 1931; while imports from Russia have been holding their own, so that Russia gained first place among foreign countries supplying gasoline to Germany.

Distributors of Gasoline In England Not Prospering

London, England.—Large losses are being shown by practically all British gasoline distributors, who have been unsuccessful in efforts to raise prices to profitable levels, with the combine unable to agree with independent producers as to quotas.

British gasoline sales are around 1,000,000,000 English gallons yearly, of which about 75 per cent is sold by the combine, the remainder being sold by independent companies. The combine includes Shell Mex, British Petroleum, and Pratts, distributing companies respectively of Dutch-Shell, Anglo-Persian, and Anglo American Oil.

Canada Depending Less On Outside Petroleum Supply

Toronto, Canada.—While not by any means meeting the domestic demand, Canada is producing increasingly important quantities of petroleum. The 1931 output of 1,537,000 barrels was an increase of about 25,000 barrels over that of the previous year and it represented a new high record.

Principal fields of Ontario are in the southeastern peninsula between Lake Huron and Lake Erie, and the principal field in Alberta is Turner Valley.

Canadian refining operations have increased steadily during the past decade, reaching consumption of 32,000,000 barrels of crude oil in 1931. In 1930 the United States supplied about 63 per cent of the raw product, South America 32 per cent, and domestic fields the remaining five per cent. At that time the Dominion had 15 refineries, but by June, 1932, it had 20 refineries, of which 17 were in operation.

CALIFORNIA FIELDS

Prospect of Oil in Eocene at North Belridge Seen as Having Wide Possibilities. No Big Drilling Expected.

BRAD MILLS, *Staff Representative, Los Angeles, California*

Offset Rush Not Expected In San Miguelito Area

Ventura, Calif. — Drilling of another well in the new San Miguelito field is not expected to start a series of offsets, due to the nature of leases on the structure. The entry into the field of J. W. Miller was made possible through the subleasing of a part of Continental Oil Company's holdings. Miller will drill a well on the southwest quarter of Section 23-3-24, and about 1300 feet south of Chanslor-Canfield Midway Oil Company's Hobson A-2.

Leases in the San Miguelito field are largely held by a few companies that do not wish to develop their holdings at this time. Drilling of a remote offset will not stimulate much interest. The possibilities of the field are not known, but it is believed that a steady production may be developed. The field is located about midway between the Rincon and Ventura Avenue fields and may have some of the characteristics of both fields. Ventura Avenue is one of the best fields in the state, while Rincon is one of the most questionable. The San Miguelito structure seems to be independent of either field, but there is a belief among many that a connection between the field and Ventura Avenue exists.

Believe Belridge Well Is Producing Below Temblor

Bakersfield, Calif.—A study of cores from Belridge Oil Company's No. 64-27, recent deep completion in the North Belridge field, and the action of the well give weight to the theory that production is coming from the Eocene formation below the Temblor, and not from the bottom of the shallower formation, as claimed by some. Such a production as 2500 barrels of 51 gravity oil and nearly 100,000,000 cubic feet of wet gas from an entirely new formation must necessarily rank as a development of great importance.

Top of the Temblor was found a little below 4900 feet, and it is hardly possible that the formation should continue for more than 3000 feet. This means that other fields may produce from levels which were formerly thought excessive.

Discovery of oil and gas in the Eocene might even affect such fields as Kettleman Hills, which is producing exclusively from the Temblor, unless the light gas proves to be coming from above the Temblor. At any rate, the possibilities of the Eocene have increased immensely with the discovery at North Belridge, and a large part of the San Joaquin valley may ultimately be affected by such deep production.

Santa Maria Test World's Deepest Active Drilling

Los Angeles, July 1. Western Gulf Oil Company is drilling at 10,070 in Bradley 1, Santa Maria district wildcat.

This establishes a new California record and is the deepest active well in the world.

Santa Maria, Calif.—Western Gulf Oil Company has passed the 10,000-foot mark in Bradley 1, deep test in the Santa Maria district, and should pick up the Temblor formation at any time. This is now the deepest active well in the world, and stands a chance to establish a new production record. Although strictly a wildcat test, the well is given a remote chance to produce from a formation which has never been reached in the immediate area. The formation is running to a very hard brown shale, the present bottom of the hole being at 10,008 feet. Only three wells have ever been drilled to greater depths than the present bottom of Bradley 1, and all were failures below the present record producing depth. The company is anxious to encounter the Temblor formation before considering abandonment.

Ventura Test Coring For Sand Near 10,000 Feet

Ventura, Calif.—Should Associated Oil Company core one more good layer of oil sand in Lloyd 83, deep test in the Ventura Avenue field, the well may be completed at some level above 10,000 feet to establish a new production record. The well is now coring hard shale and shell at a few feet under 9700 feet. The present formation shows no cut, but such a condition in the typically hard shales is expected. Several streaks of rich oil sand were found below 9000 feet, and there has been no sign of a formation which contains water. The alternating streaks of oil sand and hard shale are common in most California fields, and the unbroken oil sands so common in the Mid-Continent are very unusual on the West Coast.

The potential production record has reflected credit on the mechanics of the operation and indicates that a depth of 10,000 feet is possible under present conditions.

A high gas pressure was deevloped immediately below the seven-inch shutoff at 8579 feet, and while this has been a favorable development, it has retarded progress.

Consider Deep Test South And East of Lawndale Field

Los Angeles.—The Alondra Company is considering a deep test in the Hawthorne district, south and east of the Lawndale field. The location would be made for a continuation of the same conditions which trapped a small amount of oil at Lawndale. This part of the basin has possibilities, but the feathering out of various formations has reduced the chances of commercial production. The contract calls for drilling to at least 7000 feet, but some of the most promising formations should be found well above such a level.

Inglewood Well Plugged Back; No Rush Anticipated

Los Angeles.—Plugging back of Shell Oil Company's Rindge 9 to 2760 feet definitely establishes the zone from which it is producing, and does not lend strength to the claim that it is drawing from a deep zone which will affect adjoining leases. This well was originally drilled to 3146 feet, and under ordinary circumstances would be classed as a much deeper producer than the offsetting wells.

A few operators have taken advantage of technicalities to ask for more and deeper development of leases in the Inglewood field. This field has long been recognized as one of the greatest potential producers in the Los Angeles basin, but major operators have avoided deep tests. One well is now being drilled for the deeper zones, but it may be possible to persuade the leaseholders to withhold development of sands which are not needed. Plugging back of Shell Oil Company's Rindge 9 was a corrective step which may help to curtail drilling operations. The Inglewood field is producing from a very shallow zone, but it is known that deeper zones are productive.

Recent Edge Failures No Hurt to North Dome

Coalinga, Calif. — Enough new field work has been planned for Kettleman Hills to insure at least the present number of active operations over a considerable future period. Development will be limited to conform with agreements and market demands, but the magnitude of the North Dome forces activity which might wait in less important fields. The fact that the field is the greatest oil and gas reservoir in the country is enough to insure drilling of at least a conservative nature for years. Over a long period, the present plan of development will prove to be much better than the usual method in smaller fields. If the field is handled correctly, it will be producing oil and gas 50 years from now.

Abandonment of important flank tests and doubt as to the outcome of at least one other edge well do not necessarily limit the possibilities of the North Dome. It has long been believed that the limits of the field would be well defined, particularly on the side flanks, and failure to develop production on the northwest edge was not wholly unexpected.

Abandonment a week ago of North American Oil Consolidated's Blauvelt 1 was a sharp blow to royalty holders in the district, but the best geologists did not give the well more than an even chance to produce in the Temblor. This well was drilled to 9500 feet, and abandonment was hastened by failure of an offset which was much better located.

North American Oil Consolidated will soon test the upper part of the Temblor formation in Elsinore 1, flank test which flowed salt water recently from 9578 feet, and which failed to produce satisfactorily on the original test above 9000 feet. This well has been plugged back to test a part of the zone between the 6⅝-inch shutoff at 8365 feet and 8800 feet. The action of the well during the first test indicated that it is located on the extreme limit of the field. There is a chance for commercial production if the proper streaks of oil sand can be located and the water shut off. The limited amount of gas accompanying the original flow was not a favorable sign, but the small volume was not necessarily an indication that a better flow will not be developed when the water is shut off.

Union Oil Company has completed the rig for a second test on its King lease, in the northwest part of the field. The first completion was one of the largest on the North Dome, although it is located in a district which was at one time considered doubtful. The northwest flank has proved very productive and has been free from water, except a small amount in the top of the formation.

Kettleman North Dome Association completed No. 58-20J with an initial production of 4400 barrels of 35.3 gravity oil and only 3,000,000 cubic feet of gas. This gives the well one of the best gas-oil ratios on the North Dome. The latest producer was completed at 8707 feet and is an offset to Superior Oil Company's Huffman 4. It is the most northwesterly producer on the North Dome and slightly extends the field, but a good completion was expected.

Standard Oil Company has made two more locations for wells on different parts of the North Dome. Number 58-29J will be drilled on Section 29-21-17 as an offset to Union Oil Company's King 2, a northwest flank test now under way. A second location has been made on Section 27-22-18, on the southeast part of the North Dome.

California Field Developments

Completions

Company, Well and Location	Initial Production Bbls.	Depth
FRUITVALE—		
Western Gulf Oil Co., Harty 1, 21-29-27	*	4115
KETTLEMAN HILLS—		
Kettleman North Dome Association, Milham 58-20J, 20-21-17	4400	8707
LONG BEACH—		
T. and M. Oil Co., Cerritos 5	*	4490
Cerritos 9	*	7970
Holton 1	*	7005
Stevens 1	*	7497
MENDOCINO COUNTY—		
The Twin State Oil Co., Soldani 1, 14-12-17	*	7694
MONTEREY COUNTY—		
Pyramid Oil Co.'s Trescony 1, 26-21-9	*	850
PLAYA DEL REY—		
Balboa Oil Co., No. 15-1	100	5664
ELWOOD—		
Barnsdall Oil Co., State 88-8	500	3502

New Operations

COYOTE—Standard Oil Co., Murphy-Coyote 111, 18-3-10.

FRUITVALE—Western Gulf Oil Co., No. 12-KCL-B-1, 22-29-27.

MT. POSO—Emerich Oil Corp., No. 1, 19-27-28.

SANTA BARBARA COUNTY — Standard Oil Co., Santa Rosa Island 1, Santa Rosa Island.

Wildcat Drilling Report

(Wells shut down not included)

NORTHERN CALIFORNIA

KERN COUNTY

BLACKWELL'S CORNER — F. Fowler's Lincoln 1, 15-26-19, sdtr from 2385 ft.

BUTTONWILLOW — Milham Exploration Co.'s SP 32-7, completing as gas well at 2485 ft; SP 43-7, 7-28-23, rigging rotary; SP 21-17, 17-28-23, rig. Wilshire Oil Co.'s Salisbury 1, 7-29-24, co to test upper showings at 3230 ft, td 6990 ft.

DEVIL'S DEN—Pyramid Oil Co.'s No. 1, 24-25-18, dr shale 1000 ft. Tom Hannah's No. 1, 25-25-18, repairing equipment, 3340 ft. T. H. Purman's No. 1, 22-29-21, dr shale 4250 ft.

McKITTRICK—Welport Oil Co.'s No. 2, 19-29-21, fsh 235 ft; No. 8, 26-29-21, will run combination string for test, td 1300 ft.

SHALE HILLS—Rio Grande Oil Co.'s Utting 1, 7-27-19, dr shale 2414 ft.

SANTA BARBARA COUNTY

CARPENTERIA—Texas' Community 3-1, 33-4-25, dr brown shale 3515 ft.

COAL OIL POINT—Bolsa Chica Oil Corp.'s No. 1, will sdtr and redrill from 500 ft, former depth 5550 ft. Equity Oil and Royalty Co.'s No. 1, co 2149 ft.

GOLETA—General Pet.'s More 1, 21-4-28, re-dr 4275 ft.

LOS ALAMOS—Barnsdall's Careaga 1, 31-8-33, dr shale 4975 ft.

SANTA MARIA—Western Gulf's Bradley 1, 5-9-33, dr shale 9944 ft.

SANTA ROSA ISLAND—Standard's No. 1, dr hard sand 600 ft.

VENTURA COUNTY

HOPPER CANYON — Bardeen Pet. Co.'s Lankershim 1, 13-4-19, 9-inch cas 1500 ft, td 2757 ft.

PIRU—Torrey-Ventura Oil Co.'s No. 1, 32-4-18, dr shale 3600 ft.

RINCON—Woodrow Pet. Corp.'s Woodrow 1, 4-3-24, dr shale 2815 ft.

SAN MIGUELITO—J. Warren Miller's Valenzuela 1, 23-3-24, new lcn.

SANTA PAULA — E. M. Lesperance's Boosey 1, 31-4-20, rig.

SESPE—Merchant's Pet. Co.'s Cochran 6, 1-4-20, lcn.

SULPHUR MOUNTAIN — Wilshire Oil Co.'s Thompson 1, 20-4-21, lcn.

TIMBER CANYON — Superior Oil Co.'s West 3, 13-4-21, rig.

MISCELLANEOUS

KINGS COUNTY—Kettleman Reef Ridge Oil Co.'s Avenal 1, 10-23-16, co 1150 ft, will run 10-inch cas; No. 2, 10-23-16, roads completed to lcn. Mid-California Oil Co.'s No. 1, lcn. Knudsen and Schmidt's Avenal 1, 36-23-17, fsh for tubing after production test, td 5640 ft. Lacal Natural Gas Co.'s No. 1, 32-22-20, dr cut cmt 340 ft. Glen Woodward's No. 1, 32-22-20, dr 400 ft.

MONTEREY COUNTY—Pacific Inland Oil Co.'s No. 1A, 19-23-15, co 2340 ft.

SAN LUIS OBISPO COUNTY—Kent and McDonald's No. 1, 3-32-22, re-dr 1500 ft. Panorama Oil Co.'s No. 1, 7-31-21, re-dr 2500 ft.

SANTA CLARA COUNTY—C. H. Shaw's No. 1, 36-11-3, lcn.

TULARE COUNTY — Gravity Exploration Co.'s Hudson 1, 11-24-23, fsh for drill pipe 2210 ft.

YOLO COUNTY—Pacific Northern Gas and Oil Co.'s Guinda 1, 23-12-3, flowed some gas on test, will deepen, td 3000 ft.

SOUTHERN CALIFORNIA

BUENA PARK—Buena Park Oil and Dev. Co.'s Langstaff 1, 34-3-11, lcn.

FULLERTON — Orange Thorpe Corp.'s Skinner 1, 32-3-10, dr shale 3200 ft.

HASLEY CANYON—W. W. Stabler's No. 1, 32-5-17, may deepen from 3212 ft.

HERMOSA BEACH—Corniel Oil Co.'s Hermosa 1, 31-3-14, will deepen from 3100 ft. Tulsa Oil Co.'s Hermosa 2, 6-4-14, bailing oil and sand 3140 ft.

NEWHALL—Walter T. Ball's No. 1, 34-32-16, dr shale 1950 ft. Spencer and Brubaker's No. 1A, 8-3-16, dr shale 150 ft. Southern California Drilling Co.'s Newhall 2-1, 13-3-16, dr 1500 ft.

PLAYA DEL REY—Cooperative Dev. Co.'s No. 1, 26-2-15, dr shale 1950 ft.

PUENTE HILLS—Eldorado Oil Co.'s Baird 1, 30-2-9, fsh 2850 ft, will deepen.

SAN DIEGO COUNTY—All tests in this county are sd.

OKLAHOMA FIELDS

Southwest Sector of Oklahoma City Most Active; Disappointments in Sacred Heart Area.

FLOYD SWINDELL, *Staff Representative, Tulsa, Oklahoma*

Four Oklahoma City Wells Gauge Above 50,000 Bbls.

Oklahoma City.—Although several of the completed wells in the southwestern portion of the Oklahoma City pool have not looked so good, that area continues to lead the field in number of operations. At the end of the week there were four locations, 21 rigs and cellars, and 19 drilling wells. Status of the field at the same time was seven loactions, 32 rigs and cellars, 41 drilling wells, and three locations shut down indefinitely. The reason for such a large number of rigs and cellars is due to the practice of several operators in building rig and shutting down for 58 days as required by the corporation commission regulation. Operators are permitted to take this shut down time at any time between commencement of the test and bringing the well on to production. Seven days are required for cementing, making a total of 65 days which must be served before a well is eligible for production other than its initial or potential gauging.

The past week was one of few completions but a number of interesting potential gauges were made. Some of these were on old wells and others were on recent completions which have acted unruly in the taking of initial gauges. Four of the wells tested above 50,000 barrels for calculated 24-hour potentials. An outstanding performance was turned in for Grison Oil Company's Turner 1, NW SW SE Section 34-12n-3w. This well was completed May 4, 1932, when it flowed 630 barrels of oil and 136 barrels of sand in 19 minutes, cutting out connections so that it had to be shut in on the master gates. On the next test it produced 3250 barrels of oil and 425 barrels of sand in one hour and subsequently 4302 barrels of oil and 124 barrels of sand in one hour. On the potential gauge of the past week it produced 14,837 barrels in four hours, giving it a 24-hour calculated potential of 89,022 barrels and rating it among the biggest wells in the pool.

Anderson-Prichard and Anderson-Kerr's Rayhill 2, SW SW NW NE Section 10-11n-3w, was runner up in the matter of potential gauges. The well was recently completed and shut in after it had produced 3564 barrels in two hours and 15 minutes from Wilcox sand at 6321 to 6479 feet. On its second test it flowed 3035 barrels in one hour, giving it a 24-hour potential of 72,840 barrels. American Oil & Refining Company's Whitfield 1, SE SE NE SE Section 34-12n-3w, gave operators in the north end of the pool a scare when it cut out three master gates and almost went wild after producing 765 barrels in 22 minutes. Previously it had produced 1159 barrels in 30 minutes with gas estimated at the rate of 185,000,000 cubic feet. The well is in an area that yields large quantities of sand on initial tests and probably will increase in rate of oil flow after it has been opened several hours. It has been observed that almost without exception the big sand producers increase in rate of oil flow for the first few times opened.

Phillips Petroleum Company's Still 1, NWc SE NW NE Section 3-11n-3w, Walnut Grove Addition, was given an adjusted potential of 28,408 barrels after flowing a few minutes short of four hours. The complete four-hour gauge could not be taken due to insufficient storage facilities. Twenty-four hour calculated potential is 85,424 barrels. It is an irregular northwest offset to the same company's Houston 1, which now refuses to flow, due apparently to a sand plug which extends about 85 feet up into the oil string.

Denver Producing & Refining Company's Larkins 1, SW NW NE Section 22-11n-3w, in the southwestern portion of the pool, flowed 1778 barrels in four hours and was given an adjusted potential of 3556 barrels. When completed May 11, 1932, it produced 185 barrels in 15 minutes after which time it bridged and was shut in.

West Konawa-Sacred Heart Wells Cause Interest Lag

Seminole, Okla.—The West Konawa-Sacred Heart area lost further interest during the week when one well was plugged and abandoned and a second has all the earmarks of failure. Offsetting this was the report that Arrow Drilling Company et al had plugged back from 3804 to 2935 feet and had a flow of 80 barrels the first hour from Noble 1, CNE SE SE Section 26-6n-4e, in the West Konawa area. Top of the Wilcox sand was encountered at 3797 feet and penetrated to 3804 feet where a show of water was bad. Present production is coming from a sand, probably in the Calvin series, at 2895 to 2915 feet. The formation was shot twice with five quarts each shot, after which it flowed 80 barrels in one hour. Reopened June 28 it failed to flow at first

Status of Seminole District As of July 1, 1932

Pools	May Net Allowed Pipe Line Runs	May Actual Pipe Line Runs	July Potentials	July Net Allowed Pipe Line Runs
Allen	255,392	253,578	18,195	257,457
West Asher	115,881	119,868	9,535	125,294
Bowlegs	361,844	361,012	26,243	362,598
Carr City	365,802	346,288	23,342	322,848
Earlsboro	373,341	361,371	23,873	364,759
East Earlsboro	287,017	268,931	19,408	267,017
E. Earlsboro Ext.	7,204	7,921	531	6,526
South Earlsboro	91,037	90,728	6,642	91,229
Earlsboro Townsite	46,606	51,292	3,538	46,818
Fish	113,055	116,988	34,541	104,567
Konawa	168,776	151,581	11,194	147,116
Little River	542,218	548,432	39,940	546,049
E. Little River	61,605	55,772	3,328	49,937
Maud	48,317	42,142	2,608	46,780
Mission	216,262	216,660	15,581	211,795
Sasakwa	51,900	51,808	2,594	50,141
Searight	98,744	102,216	6,683	98,134
Seminole	341,761	339,607	24,209	342,456
East Seminole	34,904	34,756	2,370	32,662
West Seminole	83,161	85,090	12,606*	83,700
St. Louis	545,985	517,076	34,183	529,590
Wewoka Townsite	124,000	100,563	5,002	122,984
Stripper Wells	115,196	115,196	3,716	115,196
Totals	4,450,008	4,338,876	329,862	4,325,653

*Estimated, The Texas Company's Sandlin 2 potential not yet available
Note: For comparison with June see page 48, June 6, 1932, issue THE OIL WEEKLY.

but soon headed up and made a 25-barrel flow. Separators are being installed and a thorough test will be made next week.

Magnolia Petroleum Company's Martin 1, CSE NE SW Section 34-7n-4e, approximately one half-mile northwest of the discovery well in the Sacred Heart area, has been plugged and abandoned at 4322 feet in the Simpson formation. Top of the Viola limestone was logged at 4164 feet and a small showing of oil and gas at 4290 feet. At 4320 to 4322 feet the hole filled with 1000 feet of water in about 15 minutes. No upper showings were considered worthy of testing. The same company's School Land 16, No. 1, CNE NE NW Section 36-6n-4e, had top of the Wilcox sand at 3882 feet and cored sand showing water from 3884 to 3894 feet. It was then plugged back to 3000 feet and bailed down to within 1200 feet of the bottom. Bailed to this depth it showed only a small amount of oil and gas and probably will be abandoned.

Carter Oil Company et al's Monnette 1, SW SW SW Section 35-7n-4e, the discovery well in Sacred Heart, produced 216 barrels of oil and 39 barrels of water on a recent test. It is being produced by gas lift. Pure Oil Company et al's Tucker 1, west offset to the discovery well, was swabbing at the rate of 698 barrels in 24 hours and cutting 2¼ per cent water and b.s. Amerada Petroleum Company's Mitchell 1, NE NE NE Section 3-6n-4e, southwest offset to the discovery well, was producing 905 barrels of oil and 500 barrels of water per 24 hours on gas lift.

Asher-Wanette

Gypsy Oil Company's Horn 6, NE NE NE Section 23-6n-3e, in the Asher-Wanette pool in southern Pottawatomie County, swabbed 88 barrels in six hours and is being estimated at 300 barrels initially. Production is coming from sand at 3498 to 3511 feet. Mid-Continent Petroleum Corporation's Archer 4, SEc Section 14-6n-3e, north offset to Horn 6, cored sand from 3475 to 3485 feet and from 3485 to 3503 feet. The latter core showed good saturation.

West Seminole

The Texas Company was swaging six-inch casing after swabbing 45 barrels in three hours from Sandlin 2, CNE SE SW Section 29-9n-6e, in the West Seminole pool. The Wilcox sand was shot with 12 quarts and then with 40 quarts at 4095 to 4120 feet. The shots apparently damaged the six-inch casing at 4029 feet and it will probably be several days before it can be given a final test for potential. It is being estimated at 2000 barrels.

Lincoln County

Hilton Phillips was still trying to shut off water in Phillips 1, SW SW NW Section 2-14n-3e, Lincoln County wildcat about two miles northwest of the West Chandler pool. Wilcox sand was logged from 5070 to 5082 feet, where a hole full of water was encountered. The test was then plugged back to 4305 feet and the casing ripped from 4075 to 4095 feet. The hole was cemented and drilled out to 4095 feet, at which depth it filled 3000 feet with water in a short time. Bailed down to within 1000 feet of bottom a small showing of oil came through but the water soon resumed its former height of 3000 feet. Phillips has had plenty of grief in trying to prove production on this reported "geophysical high," having lost the first hole after penetrating Hunton limestone at 4842 feet. An unsuccessful fishing job extended over several weeks and the rig was skidded for the second hole 50 feet away.

Oklahoma Wildcat Limit Makes It Hard on Osages

Tulsa.—A new proration question was injected into the already complicated situation when state umpire, Ray M. Collins, proposed to restrict Bay Oil Company's wildcat discovery in the Osage Nation to 50 barrels per day as has been done with other wells falling within this classification. During a meeting between proration officials, operators, and purchasers last week, it was decided that the

Oklahoma Field Developments

Completions

Company, Well and Location	Initial Production Bbls.	Depth
COMANCHE COUNTY—		
Snodgrass et al, Willette 1, ne c nw 33-4n-12w	*	515
CREEK COUNTY—		
Doak & Hughes, Fraction 1, swc nw 18-14-9e	*	2827
Deep Rock et al, Warnakee 6, ne nw sw 22-15-8e	*	2950
A. W. Swift, Ford 1-A, nwc ne nw 10-19-9e	¶¼	1287
Hughes et al, Green 4, nec sw 11-19-9e	25	2158
Gled Oil Co., Boyd 5, sw nw ne 29-19-9e	45	2194
GRADY COUNTY—		
Anderson et al, Wilds 2, ne se se 28-3-5w	45	2528
Carter et al, Carson 1, se c 12-3n-8w	*	4991
HUGHES COUNTY—		
Limestone O&G, Walker 1, nw se ne 15-7-8e	125	1245
JEFFERSON COUNTY—		
Southern Oil, Seay 4, nwc ne ne 10-7s-5w	40	1102
Southern Oil, Seay 3, nw ne ne 10-7s-5w	75	1256
Farlyn, Seay 3, sw se se 3-7s-5w	102	1259
Farlyn, Seay 2, sw se se 3-7s-5w	65	1100
MUSKOGEE COUNTY—		
Goodman et al, Corbray 1, ne c se 12-15-15e	*	1250
OKLAHOMA COUNTY—		
Anderson-Prichard, Rayhill 2, swc nw ne 10-11-3w (1 hr. 35)	3605	6479
PITTSBURGH COUNTY—		
Ruby Ann et al, George 1, cel nw se 3-4-16e	*	1282
PONTOTOC COUNTY—		
Vanderslice, Bolan 1, sw nw se 17-2-4e	*	350
Vanderslice, Bolan 2, sw nw sw 17-2-4e	¶1	290
Benedum & Trees, Burk 2, nwc 33-5-5e	120	2310
Texhoma, Miller 1, se sw sw 27-5-6e	¶25-25	1645
POTTAWATOMIE COUNTY—		
Amerada, Mitchell 1, ne c 3-6-4e	785	4270
Pure et al, Tucker 1, se c 34-7-4e	829	4245
SEMINOLE COUNTY—		
Amerada, Tiger 5, nw sw se 3-8-5e	561	4168
Tiger 6, cwl w½ e½ 3-8-5e	738	4206
Chase 2, sec ne sw 29-9-6e	2334	4094
STEPHENS COUNTY—		
George Stegner, Peck 1, swc nw 1-2s-8w	50	1461
Pace, Pierce 3, nec se 3-2s-8w	15	1547
Ed Chamberlain et al, Parker 1, ce½ ne se se 11-2s-8w	¶5½	1505

New Operations

CREEK COUNTY — Slyman & Vickers, Stewart 1, nwc 25-15-7e. Christian & Dean, Barnett 1-A, sec 7-18-9e. Carpenter-Dowd, Riley 1-A, se sw ne 24-18-10e. Gled Oil Co., Koch 10, se ne ne 20-19-9e. Sam Moyen et al, Leader 7, cnl ne ne 3-18-11e.

HUGHES COUNTY—Taylor et al, Amrey 1, se c sw 28-7-8e.

JEFFERSON COUNTY—Southern Oil Co., Seay 1, se nw se 3-7s-5w.

OKLAHOMA COUNTY — Harper-Turner, Hayes 2, ne se nw 22-11-3w.

OKMULGEE COUNTY—Cusack, Scott 5, sw nw se 15-13-14e, (owdd). Bassinger, Postoak 1, nw ne sw 6-14-11e. Curtis Oil et al, Berryhill 1, nw ne nw 17-14-12e. N. S. Pettenger, Bonner 7, nw ne nw 6-14-15e.

PAWNEE COUNTY—S. Williams, Dickenson 2, sw se nw 1-20-8e (twin).

PONTOTOC COUNTY—Vanderslice, Bolan 3, sw ne sw 17-2-4e. Stanolind, Allen 1, se c ne 32-5-5e, (owdd). Stanolind, Allen 2, ne c 32-5-5e.

SEMINOLE COUNTY—Spears Drlg. Co., Smith 1-A, nwc 18-9-6e.

STEPHENS COUNTY — McAlester et al, Blake 1-A, nw ne sw 16-1s-8w. Medlin et al, Wade 1, cnw nw ne 11-2s-8w.

TULSA COUNTY—Eppler et al, Lumkin 1, ne nw ne 6-17-14e.

WAGONER COUNTY—R. K. Marrs, Snake 2, swc ne nw 26-18-15e.

Wildcat Drilling Report

(Wells shut down not included)

KAY COUNTY—Blubaugh et al, Indian 1, c nw se 30-25-1e, dr 2520 ft.

ELLIS COUNTY—L. C. Hivick et al, Roper 1, c se nw 21-20-24w, rog.

NOBLE COUNTY—Wentz Oil Corp. et al, Wolff 1, c se nw 17-20-2w, rig.

BLAINE COUNTY—Watonga Pet., Masters 1, sw nw nw 27-16-11w, dr 277 ft.

LINCOLN COUNTY—Phillips, Phillips 1, sw nw 2-14-3e, rip cas, 4055-75 ft, 3800 ft fluid, cemtg bottom water.

WASHITA COUNTY — Burns & Prince, Dock 1, swc, 21-8-18w, Granite Wash 1760-70 ft, so. sd.

PITTSBURG COUNTY — Moffett & Hall, Jones 1, c ne nw, 14-8-14e, td 450 ft, sd.

KIOWA COUNTY—Christian, James 1, ne se, 8-7-18w, td 1200 ft, ur 1185 ft.

PONTOTOC COUNTY—Sunray, Grant 1, c se ne, 11-4-8e, dr 100 ft.

GRADY COUNTY — English Drlg. Co., Heenan-Coe, 1, ne se ne, 32-3-7w, td 1900 ft, pipe stuck.

MARSHALL COUNTY—Hughes, Ayres 1, ne se 30-7s-7e, dr 200 ft.

STEPHENS COUNTY — Gillette Bros., Cooley 1-A, nw se nw, 17-2s-8w, rog.

question would be put up to Ray Lyman Wilbur, Secretary of the Interior, and let him decide what is to be done. Under governmental regulations the Osage Tribe is entitled to one-fifth royalty on all wells producing over 100 barrels daily and one-sixth royalty on those producing under 100 barrels. George Alberty, vice chief and D. E. Murphy, superintendent of the agency, represented the interests of the Osages, who feel that the well should not be prorated below 100 barrels. To date it has produced approximately 12,500 barrels, all of which has been purchased by Gulf Pipe Line Company and Gypsy Oil Company.

Because of slackened market demand the two purchasers now are willing to take only 50 barrels per day. The purchasers also feel that the well should be classified and prorated as have other wildcat discoveries. Gypsy Oil Company owns the north and southwest offsets and Johnson Oil & Refining Company the northwest offset. The east offset has not been sold. It was intimated that if Bay Oil Company is allowed to produce its well unrestricted, Gypsy Oil Company will drill its offsets, which it had not planned to drill until sometime in 1933. It has been rumored that a deal is pending whereby Sinclair-Prairie Pipe Line Company will connect the well and run as much oil as it is permitted to produce. In this event a drilling campaign may be precipitated.

Seminole's July Runs Will Show Increase

Seminole, Okla.—Allowable pipe line runs for July for pools of the Seminole district will be 4,325,653 barrels compared with 4,219,685 barrels for June. Although totals for the two months differ by 105,958 barrels the daily average for July will be only 1119 barrels greater than that for June. Increases in allowable were granted in the Allen, Asher-Wanette, Bowlegs, Carr City, Earlsboro, South Earlsboro, East Earlsboro Extension, Little River, Mission, Seminole, St. Louis, and Wewoka Townsite, and to the stripper wells. The largest increases were in the Mission, Seminole and St. Louis pools, which will produce 45,487 barrels more than they did in June. In most instances the difference is only that of an extra day's production at the same daily rate.

Total potential for July is up only 8360 barrels above that of June, the increase being due principally to new wells in the Fish and West Seminole pools. Estimated potential for July is 329,862 barrels as compared with 321,302 barrels for June. This gives an average allowable of about 42.3 per cent of potential.

Wildcat Southeast of Chickasha Cores Oil Show

Chickasha, Okla.—Interest was resumed in Grady County during the past week when English Drilling Company cored a good showing of oil in Heenan-Coe 1, C NE SE NE Section 32-3n-7w, approximately nine miles southeast of the Chickasha gas field and 2½ miles north of the town of Marlow. After coring oil sand from 2685 to 2694 feet operators started preparations for setting casing to test.

Carter Oil Company et al's Community-Carson 1, SEc Section 12-3n-8w, a recent dry hole at 5000 feet, is about four miles northwest of Heenan-Coe 1.

According to the geological departments of several oil companies who were watching the Carter test it was still in Pennsylvanian when abandoned. The Heenan-Coe may be in upper Pennsylvanian or lower Permian.

Army Order Closes Wells of Alleged Proration Violators

Oklahoma City.—The second Oklahoma City producer felt the power of martial law last week when Marshall Oil Company was served notice by the national guard to close all of its wells until termination of present litigation arising from alleged violation of proration regulations. Wells of Wilcox Oil & Gas Company were included in the order. The Oklahoma Corporation Commission had cited Marshall Oil Company to appear and show why it should not be held in contempt for failure to make reports to the umpire's office for the period June 9 to 15, inclusive. The case was originally called for June 23 at which time C. B. Kidd, attorney for Marshall Oil Company, stated that the required reports would be forthcoming immediately. At a continuance held Saturday, June 25, H. B. Davidson, employed by the umpire, testified that H. G. Marshall, president of the company, refused service on a summons when he crumpled that document and threw it away. Miss Inez Montgomery, secretary for the company testified she did not know where the company kept its bank account and that she did not know anything about its production records. When asked who paid bills for Marshall Oil Company she testified that "the bills are paid through an arrangement with the H. F. Wilcox Oil & Gas Company. I don't write any checks for Marshall Oil Company."

Chairman Walker terminated the hearing by continuance until July 9 and said that orders would be issued restraining Marshall Oil Company from producing or transporting crude. A second order would be directed to Empire Pipe Line Company, Globe Refining Company, H. F. Wilcox Oil & Gas Company, Magnolia Pipe Line Company, Champlin Refining Company and the St. Louis and San Francisco Railway Company, prohibiting them from transporting crude for the company. E. G. Dahlgren, of the umpire's staff estimated Marshall Oil Company to be overproduced to the extent of 56,964 barrels. Connection between Wilcox Oil & Gas Company and Marshall Oil Company is not publicly known but from testimony as to financial arrangements it would seem that a relationship exists. Wilcox Oil & Gas Company was recently cited for overproducing its wells approximately 700,000 barrels.

"Reports on the Progress Of Naphthology"

The Institution of Petroleum Technologists, through W. Speight and Sons, Ltd., Fetter Lane, E. C. 4, London, England, has published "Reports on the Progress of Naphthology," a composium of reprints from the Journal of the Institution of Petroleum Technologists, April and May, 1932.

The book, which sells for 10s. 6d. in Lindon, lists in the form of technical papers progress made in various branches of the oil industry during 1930 and 1931. There is a chapter on petroleum geology, one on oil field practice, one on present trends in oil pipe lines, one on American refinery technology, one on refining in Asia, a similar chapter on Europe, a chapter on the cracking art in 1930-1931, another chapter on distillation and fractionation equipment, one on gasoline and the gasoline engine, one on gum formation and its inhibition in motor spirits. There are chapters on kerosene, white spirit and lubricants, gas and fuel oils, oil engines, asphalts and road materials and on special products.

In addition to the above, the book treats a number of other subjects, such as low temperature carbonization and low temperature tar, analysis and testing, the chemistry of petroleum, and petroleum in Russia.

Reports on the Progress of Naphthology contains about 200 pages in addition to many illustrations.

The Texas Railroad Commission today granted petition of Hagy, Harrington & Marsh for a gasoline stripping plant in the Panhandle. Fifteen other companies are expected to come in with similar petitions which will probably be granted, as their situation is similar. This also means reopening of F. C. Henderson plant at Sanford. It is believed that the precedent will cause establishing of similar plants in other parts of Texas.

KANSAS FIELDS

Mid-Continent's Northerly Test Rips Casing With Shot. Hunton Lime Test Loses Pressure, Later Revives.

FLOYD SWINDELL, *Staff Representative, Tulsa, Oklahoma*

Kingman County Production Extended Half Mile Northeast

Wichita, Kansas. — Several interesting reports came from Kansas wildcats during the week. Skelly Oil Company's Leisman 1, CSE SW Section 20-27s-10w, approximately one half-mile northeast of the discovery well in northwestern Kingman County, found a second producing horizon and extended production one half-mile. After penetrating three feet of Viola limestone topped at 3922 feet, operators set six-inch casing at 3919 feet. While drilling out the plug and still eight feet off bottom, dry gas broke in and blew the tools up the hole, resulting in a bad fishing job. Gas is said to have gauged slightly over 13,000,000 cubic feet. Operators are preparing to kill the gas so that fishing operations can be carried on. Skelly Oil Company's Miles 1, NE NE NE Section 30-27s-10w, the discovery well, was first completed in February, 1931, for an initial of 400 barrels from the Kansas City-Lansing at 3385 to 3441 feet. In February, this year, it was deepened to 3464 feet where it was rated at 255 barrels initially.

J. J. Hall et al's Davidson 1, CNE NE Section 25-5s-18w, most northerly drilling well in the Mid-Continent and more than 40 miles from the nearest production, was plugged back to 3210 feet and shot three times in the Oswald lime. The first shot was with 15 quarts at 3090 to 3105 feet, the second with 60 quarts at 3190 to 3205 feet, and the third with 40 quarts at 3135 to 3145 feet. One of the shots apparently cracked the eight-inch casing as the hole filled rapidly with water carrying some oil on top of the column. The eight-inch is set at 3083 feet and it may be that the first shot damaged the casing seat and the water is coming from behind the pipe around the casing shoe. It is now shut down for orders.

Slick et al's Orth 1, CSE SE NE Section 27-18s-10w, about six miles from production in northwestern Rice County, set six-inch casing on top of a 500,000 cubic foot gas show and drilled to 2935 feet, where the gas volume doubled. At 2975 to 2985 feet a hole full of water was encountered and operators were drilling ahead below 2995 feet when the test was last reported.

Midwest Refining Company et al's Scheufler 29, CSW SE Section 9-20s-11w, slightly over three miles west of production in the Hilligos pool in southeastern Barton County, had top of the Conglomerate at 3280 feet and top of the Arbuckle at 3300 feet, where eight-inch casing is being set. A two-foot saturated core was taken between 3300 and 3305 feet. It will be drilled in with cable tools.

McBride Incorporated's Friesen 1, NW NW SW SW Section 20-22s-3w, second Hunton lime producer in the state, was opened after being shut in for 30 hours and would not flow. Pressure had dropped to zero. After being agitated with the bailer it flowed 139 barrels in 30 minutes and is now pinched to about five barrels an hour, flowing against 15 pounds back pressure.

Vickers Petroleum Company was drilling ahead at 3320 feet in Claussen 1, CSE NW Section 31-15s-10w, after having a show of oil and gas in the Conglomerate at 3300 to 3302 feet. It is located in western Ellsworth County and about three miles east of the nearest production.

Kansas Field Developments

Completions

Company, Well and Location	Initial Production Bbls.	Depth
COWLEY COUNTY—		
Slick-Pryor-Lockhart, Sitten 2, swc nw 29-31-6e	150	2939
W. N. McKnabb, Hutto 3, sw se ne 22-32-4e	75	2444
ELLSWORTH COUNTY—		
Gypsy & Palmer, Stoltenberg 2, nec nw sw 22-16-10w	230	3354
Williams-Moore et al, Stratman 1, nec sw se 23-16-10w	330	3391
Slick-Pryor-Lockhart, Heiken 1, nec 26-17-10w, 8 hrs	210	3266
GREENWOOD COUNTY—		
York State, Westcott 12, swc se nw 33-22-11e	100	2003
Gore-Phillips, Beal 5, sec ne 28-23-11e	*	1972
Harwood Oil, Carson 4, nw sw ne 33-23-11e	*	2054
Gore-Phillips, Brothers 2, ne nw nw 35-23-11e	52	1879
Lykes et al, Patterson 1-A, swc nw nw 36-23-11e	75	1887
York State, Munger 1, nec 35-24-10e	*	2000
HARVEY COUNTY—		
Olson Oil et al, Krehbiel 1, nec sw sw 19-23-3w	216	3370
McBride-Stanolind, Lovett 1, nwc se sw 13-19-2w	1366	3411
Phillips Petroleum, Smeltzer 1, nec sw se 21-19-1w	*	3498
Shell, Lawrence 1, sec nw 35-19-3w	251	3036
RENO COUNTY—		
Olson-Shell, Roberts 1, ne c sw nw 25-23-4w, 22 hrs.	165	3376
Olson et al, Krehbiel 1, nwc se ne 26-23-4w	500	3384
SEDGWICK COUNTY—		
Shell Petroleum, Fisher 4, sw nw se 15-26-2e (owdd)	590	3208½
Miller et al, Jones 1, swc 26-27-1e	*	1568

New Operations

COWLEY COUNTY—Mid-Kansas, Rodgers 1, sec sw sw 7-31-5e. McKnabb et al, Southwestern College 1, swc se 11-32-4e. Fern Oil, Gardehire 1, nw nw sw 22-32-4e. George Hinkle, Winfield Ice Co., se sw se 27-32-4e.

GREENWOOD COUNTY — Houston-Oklahoma Oil, Berry 2, 50 ft east swc se se nw 28-23-13e.

HARVEY COUNTY—F. H. Hollow, School 1, swc 20-22-3w (owdd). Olson-Shell, Day 1, nw sw nw 19-23-3w.

McPHERSON COUNTY—Derby Oil, Lacquement 1, sw se se 20-19-1w (owdd). Standard of Kansas, West 1, se nw se 3-20-3w. Mylins et al, Regier 1, se se sw 16-21-3w.

RENO COUNTY—Olson, Rudicel 1, ne sw sw 24-23-4 west.

RICE COUNTY—Shell et al, Murphy 1, ne c sw ne 4-19-4w.

Wildcat Drilling Report

(Wells shut down not included)

SEDGWICK COUNTY—Cameron & Great Basin, Landson 1, c se nw, 13-28-2e, co.

PRATT COUNTY—Ninnescah O&G, Hardesty 1, sw se se 28-27-11w, spd.

SEDGWICK COUNTY—Miller et al, Jones 1, swc 26-27-1e, td 1560 ft, D&A. Scroggins et al, Bartlett 1, nw se nw nw 35-27-1e, sd 180 ft.

BUTLER COUNTY—Ramsey et al, Michael 1, sw nw nw 18-27-3e, dr 1570 ft.

EDWARDS COUNTY—Mid-Kansas, Converse 1, sw ne ne, 30-24-18w, dr 3980 ft.

RENO COUNTY—National Union, Hill 1, ne se 18-24-4w, lcn.

FINNEY COUNTY — National Ref. Co., Wells 1, swc, 13-23-30w, 6-inch 5040 ft, dr 5140 ft.

HARVEY COUNTY — Joe Liggett et al, Voshell 1, ne sw, 3-23-3w, lcn abn. D. R. Louck, Ratslaff 1, sw se nw, 9-22-3w, 10-inch 2535 ft, dr 3197 ft.

BARTON COUNTY—Midwest, Scheufler 29, c sw se, 9-20-11w, dr 3070 ft.

RICE COUNTY—Roy Ramsey, Hilton 1, sw ne sw, 6-20-9w, sd 2025 ft.

McPHERSON COUNTY — Snyder et al, Carlson 1, se c, 4-19-3w, dr 465 ft.

MARION COUNTY—Deitrick et al, Dalke 1, nw se, 11-19-1e, spd and sd.

RICE COUNTY—Slick et al, Orth 1, se se ne, 27-18-10w, dr 2490 ft.

McPHERSON COUNTY—Simmons-Canary, Krehbiel 1, 33-18-1w, dr 2480 ft.

CHASE COUNTY—Ryan et al, Lipps 1, c se sw, 25-18-6e, sd 625 ft.

ELLSWORTH COUNTY—Slick et al, Dreford 1, sw nw, 7-17-10w, sd 700 ft.

McPHERSON COUNTY — Sidwell et al, Nichols 1, ne nw nw 28-17-1w, spd.

ELLSWORTH COUNTY—Johnson-Vickers, Claussen 1, c se nw, 31-15-10w, 8 inch 2903 ft, dr 3030 ft. Walker Oil, Remley 1, sw se ne 23-14-7w, rig.

SALINE COUNTY—Twin Mounds, Weis 1, c w½ ne nw 20-13-4w (owdd), 6-inch 3135 ft, dr 3150 ft.

SHERIDAN COUNTY — Flo et al, Shoemaker 1, se sw sw, 27-7-26w, 4535-40 ft hfw, sd.

PHILLIPS COUNTY—Hall et al, Donaldson 1, c ne ne, 25-5-18w, T. congl. 3365 ft; so 3375 ft, td 3385 ft, fsh bit.

EAST CENTRAL TEXAS

Cautious Drilling Gets Wells In Water Danger Zone. Minor Extensions Reported In Two Sectors.

H. H. KING, *Staff Representative, Fort Worth, Texas*

New Drilling at Last Shows Tendency to Decline

Tyler, Texas.—Curbing of drilling operations in the East Texas oil field showed signs of materializing after several recent false starts during the week ending July 1, when new locations aggregated 130 or 13 less than the previous week. A damper on new drilling will naturally follow the decision of the railroad commission to continue to lower the well allowable at 15-day intervals during the next 60 days, while tighter restrictions are to be imposed by this enforcement body in regard to awarding drilling permits for unnecessary wells.

The commission's new order governing drilling allows owners of undrilled 20-acre units and fractional units to proceed with development of same to the extent of one well on each, thus amending an order partially enforced lately as a means of stifling drilling.

Cautious drilling and shallow penetration of the oil sand is yielding wells on the extreme west edge of the East Texas field that are free of water, but with a narrow margin of safety against bottom hole water. It is questionable as to whether such class of producers will return sufficient production prior to the rise of the water table to justify the investments. Larger companies, with few exceptions, shy away from such locations, and are content with farming out their leases to independents for nominal oil payments, or overriding royalty interests. Monroe & Harper's J. B. Robinson 1, a lease farmed out by Shell Petroleum Corporation, compromised with one foot penetration in the sand to a total depth of 3757 feet, or 3312 feet below sea level, and tested 75 barrels of pipe line oil in 20 minutes via open two-inch tubing. This outpost is located in Smith County and near the west edge of the D. Shaw survey.

Welch & Sandler's R. W. Barnett 4, located on the west edge of the Kilgore area, Gregg County, and on the east line of the J. Taylor survey, cored one foot into the sand to 3737 feet, or 3317 feet below sea level, and registered an initial flow of 75 barrels oil per hour via open tubing, with 200 pounds working pressure. Zion Oil Company's Barnett 1, located on the 24 acres adjoining the above lease to the west, flowed water with oil when first tested at 3745-52 feet, or 3337 feet below sea level. The hole was plugged back 100 feet with cement, then deepened to 3748 feet after setting whipstock and sidetracking, but failed to make a commercial producer, with plugging orders following. Both of these Barnett leases were farmed out by Tidal Oil Company.

A slight southwest extension to that portion of the field overlapping the northeast corner of Cherokee County was accomplished from one foot of sand penetration when C. L. Tubbs et al's J. H. Sharp (three-acre strip) 1, was completed with an estimated flow of 5000 barrels daily at 3722 feet, or 3318 feet minus depth. A leaky joint of casing has appeared since completion.

Perforation of casing near the base converted Sun Oil Company's J. J. Denton 4-A, located in northwest corner of 147½-acre lease, J. Vargas survey, Smith County, into a normal producer. This well is one location inside the edge producer for the immediate area, and when tested at 3742 feet, or 3316 feet below sea level, failed to flow. Discovery of a slight discrepancy in pipe measurements after cementing the casing gave rise for the belief that a few feet of sand had been shut off. This was proven true when the perforation of the casing near the bottom resulted in the well flowing 33 barrels of oil per hour via combination string of one-, 1½-, and two-inch tubing. Sun Oil Company's A. Lee 1, which was reported last week as having widened the oil area in Rusk Connty a short distance to the southwest, is not making its proration allowable, although equipped with a bottom hole choke, and varies in flow from 30 to 40 barrels daily at 3661 feet, or 3312 feet below sea level.

W. F. Sorrels and A. W. Owens' J. W. Free 1 provided a minor extension to the productive area in Upshur County in registering an initial flow of 55 barrels oil per hour via open two-inch tubing from sand at 3693-95 feet. This well is in the southeast corner of 30-acre lease, Wm. King survey, that was farmed out by Humble Oil & Refining Company for $500 per acre, payable out of oil. Sun Oil Company is to drill an east offset. Service Drilling &

Operations East Texas Field

Most active companies operating in Gregg, Rusk, Upshur, Smith and Cherokee Counties, comprising the East Texas oil field, are listed below:

Company—	Locations	Derricks and Rigs	Active Tests	Total Underway	Total Producers
Atlantic Oil Prod. Co. et al	22	26	23	71	196
Gulf Production Co. et al	15	20	26	61	418
Mid-Kansas Oil & Gas Co.	5	35	16	56	95
Sun Oil Company et al	9	12	14	35	208
Humble Oil & Ref. Co.	7	13	15	35	668
Sinclair Prairie Oil Co.	6	8	20	34	360
Shell Petroleum Corp.	6	4	8	18	204
Stanolind O. & G. Co.-Pure-Simms	3	3	11	17	180
Arkansas Fuel Oil Co.	..	7	9	16	123
Empire Gas & Fuel Co.	3	8	4	15	70
The Texas Company	3	7	3	13	107
Yount-Lee Oil Company	3	6	3	12	122
Magnolia Petroleum Company	..	4	6	10	321
Tidal Oil Company	5	1	4	10	217
H. L. Hunt Production Co.	1	4	4	9	111
East Texas Ref. Co.	2	1	3	6	73
American Liberty Oil Co.	1	..	4	5	48
Total for 17 companies	91	159	173	423	3,521
Miscellaneous	44	100	200	344	2,940
Total	135	259	373	767	6,461

Royalties Company's Free 1, located a short distance to the south and in the southeast corner of Wm. King survey, failed to flow recently when tested at 3306 feet below sea level, and will be deepened. This is also on a sub lease of the above major company. Sam Dorfman & Reynolds' J. B. Miller 1, located on 100-acre lease in the southwest part of the King survey, also failed to flow when tested at 3760-78 feet, and deepened to 3785 feet for a second try for production, having obtained the lease from Humble Oil & Refining Company.

The Texas Company's H. L. Phillips 3, located in the D. B. Choate survey and northwest of Gladewater, made 20 to 35 per cent b.s. and water on initial flow of 60 barrels per hour via half-inch choke on tubing from sand at 3703-3705 feet, with 200 pounds working pressure. It has a surface elevation of 393 feet.

Expect Revival of Drilling In Wheeler County

Pampa, Texas.—A revival of oil activity in western Wheeler County, Texas Panhandle, is expected to follow completion of Mert Oil Company's (Devore and Robinson) G. W. Sitter 1, which is rated at 100 barrels of oil daily from 2559-64 and 2745-47 feet, with a total depth of 2760 feet. The showing made by this former gasser, which was originally completed making 63,000,000 cubic feet of dry gas at 2020-2193 feet, then 80,000,000 cubic feet when deepened to 2263 feet, adds weight to the theory that the oil area in eastern Gray County will extend over into western Wheeler County. Sitter 1 is located at the NWc SE Section 33, Block 24, H&GN Ry. survey, and in the midst of a prolific dry gas pool, which is producing from lime above the oil horizon. The heavy flow of gas in Sitter 1 was cased off through the landing of 6⅝-inch pipe at 2409 feet. The well has a surface elevation of 2564 feet.

Operations on Humble Oil & Refining Company's wildcat test on the C. Adair ranch, Briscoe County, were halted at 4000 feet as result of rotary returns yielding traces of sulphur odor, but no evidence of oil or gas. This test was scheduled for 5000 feet, and is near the center of a 12,000 acre block. First Whitehorse lime was reported at 495 feet, and the top of the Blaine section at 870 feet, with a surface elevation of 2620 feet.

Commission to Take Added Precautions at Conroe

Houston. — Additional precautions against future occurrence of waste in the new Conroe field of Montgomery County were taken under advisement by the Texas Railroad Commission in session at Houston, June 25, such precautions having to do with specifications for casing, well spacing, fire hazards, blowout hazards, property drainage through drilling of crooked holes, and gas-oil ratios.

W. F. Knode, petroleum engineer with the commission, submitted for discussion of the operators a series of changes proposed for the existing regulations on the Conroe field.

The first rule, applying to well spacing, was deemed not sufficiently precautionary, with the result Knode recommended that a minimum of 933 feet between a drilling well and a producer be ordered by the commission. The existing orders call for a minimum of 660 feet. This recommendation met with no serious objection. Neither did the recommendation that operators be required to locate their wells not closer than 466 feet to any property lines.

It was suggested the surface casing requirements be changed to 1400 feet, instead of 850 feet as previously ordered, as a precaution against possible pollution of Conroe's water supply and waste of gas reservoir pressure.

Knode's suggested change for Rule 3 would call for testing the casing to 3000 pounds pressure instead of 2000 pounds.

Suggested changes in Rule 6 would require the use of a blowout preventer and a drilling valve and require that the oil string be cemented not more than 50 feet above the top of the pay sand.

An addition to Rule 20 would require a survey of the hole every 500 feet, with a maximum deviation of five degrees allowed on wells located on 20-acre tracts, and a maximum of three degrees in wells located in smaller tracts. Rule 21 fixes the oil/gas ratio at 2000 cubic feet per barrel, while Rule 22 stipulates that a pipe line permit shall be withheld until the commission is satisfied the operator has completed the well according to regulations.

Testimony heard at the hearing will be considered in Austin by the commission and an order based thereon will be issued early in July.

Slackening in Gas Production Began in 1931

(Continued from page 14)

Value of gas at points of consumption aggregated $415,519,000 in 1930, against $413,153,000 in 1929.

Seven states, Oklahoma, Louisiana, New Mexico, Montana, Wyoming, Kentucky and West Virginia, reported production in excess of state requirements. Yet, Texas, with consumption greater than production, furnished other states with 54,116,000,000 cubic feet through interstate transmission lines. West Virginia, however, continued to show the largest out-of-state shipments, with a total in 1930 of 98,206,000,000 cubic feet. Oklahoma transported to other states a total of 65,277,000,000 cubic feet in 1930. Total interstate movement amounted to 380,601,000,000 cubic feet, aaginst 325,021,000,000 cubic feet in 1929.

Because of curtailment in drilling, the number of gas discoveries in 1930 undoubtedly fell below the total of 1929. However, the number of wells completed was practically the same as in 1929. Total initial gas production in 1930 probably constituted a new record, as an increasing proportion of the wells were drilled with the object of establishing a gas reserve to insure operation of the various long-distance pipe line systems. This fact accounted for an increase in drilling activity in the Texas Panhandle and in the Richland field of Louisiana. The possibilities of Kentucky as an important source of future supply were seriously considered and the number of gas wells completed in that state was practically double that recorded in 1929. A substantial gas reserve was set up in the Hugoton field of southwest Kansas through completion of about 80 gas wells in 1930. The Jackson field of Mississippi came in for considerable development in 1930 and 1931, with the completion of a number of unusually large gas wells.

Tripplehorn Purchases Andrews County Property

San Angelo, Texas.—The discovery oil pool in Andrews County West Texas, consisting of four fully equipped wells having a combined production estimated at between 200 and 300 barrels daily with an average total depth of 4655 feet, has been acquired by J. W. Tripplehorn, Fort Worth operator, for $7,000 cash. About 25,000 barrels of storage oil and the tanks containing same were thrown in for good measure. This deal retires the trio of companies that shared in the original development, which was checked while in the budding stage because of the absence of flush production, and particularly due to the crude production carrying an abnormally high sulphur content. Crude purchasing companies in the district refused to accept deliveries of the oil at any price.

Deep Rock Oil Company fostered the initial test in July, 1929, and sold one quarter interest in the 10,000 acre block and a free ride on the first test to Atlantic Oil Producing Company and The California Company. Ogden 1 uncovered the pool in the lime horizon at 4345-4428 feet in December, 1929, swabbing and flowing 200 barrels daily. The three other tests that followed proved to be of smaller caliber. Deep Rock Oil Company turned its interest in the project over to its associates some months ago, and they likewise withdrew from the area as result of the deal with Tripplehorn, who will attempt to workover the wells. Should this effort prove disappointing it is planned to salvage the equipment, and move the serviceable equipment to the Texas Panhandle, where J. W. and D. R. Tripplehorn have considerable holdings to be developed.

Central East Texas Developments

Completions

Company, Well and Location	Initial Production Bbls.	Depth
JOINER AREA—		
Adams & Lyles, Allen Kersh 56-ac) 1	3500	3634
C. B. Bunte, Inc., I. J. Smith-Gulf (110.7-ac) 6	8200	3702
C. B. Bunte-Droppleman Dev. Co., A. S. Jarvis (85.8-ac) 1-A	4500	3741
Butler & Calhoun, Brett 1	5000	3705
Champlin & Bass, Inc., R. G. Mason (40½-ac) 2	7200	3610
J. L. Collins & Co.-Wheelock & Stroube, L. J. Pinkston (53-ac) 5	5000	3658
M. A. Corbin et al, E. B. Alford 1, blk. 1	2500	3610
R. F. Fair & Thompson, Wylie-Freeman 1	5000	3710
Gulf Prod. Co., Mayfield (53.9-ac) 5-D	5500	3607
Henson Oil Co. & Reynolds, R. A. Motley (43-ac) 3	8500	3784
Humble O&R Co., P. R. DeGuerin (121.8-ac) 7	9000	3758
Ida Holt (91.45-ac) 4-B	8500	3802
D. C. Joyner (74.11-ac) 3	10,000	3700
J. H. Silvey (57-ac) 4-B	7500	3786
M. C. Thompson (126-ac) 3	9000	3623
Virginia Turner (146-ac) 5-A	7200	3720
H. L. Hunt Production Co., Bradford 2-E, blk. 11	250	3643
M. L. Thompson (19-ac) 2	8000	3765
Smith-Wilson 2-A	7000	3735
Jackson-Wise & Snedden, J. H. Stewart (27-ac) 2	5000	3721
Johnston & Rogers, C. W. Mullins (30-ac) 3	8500	3785
Frank Long Oil Co., G. A. Turner-Gulf (113-ac) 2	5500	3800
J. E. Mabee, Inc.-Tidal Oil Co., J. B. Wilson (31-ac) 3	9000	3628
C. L. McMahon-Ed. Moore-J. W. McCulloch, Cook (40-ac) 5	3000	3711
Mid-Kansas O&G Co., H. C. Burton (254-ac) 3	6500	3702
H.C.&G.W. Burton (148.8-ac) 4	7200	3655
Jim Lunsford (71-ac) 2	8500	3695
J. H. Sharp (482.67-ac) 7	7200	3671
Monroe & Harper, J. B. Robinson-Shell (12.7-ac) 1	11,000	3757
Nivla Oil Corp. (was Sutton-Hawkins), M. E. Church (12-ac) 2	8000	3838
Pansy Oil Co., Glover 1, blk. 16	3000	3645
L. H. Pritchard & Winn, Giles-Finney 2	4000	3750
Pugh-Hickman Drl. Co., R. G. Wright (20-ac) 4	9000	3718
Sinclair-Prairie Oil Co., A. S. Jarvis (266-ac) 17-A	3000	3703
A. S. Jarvis (256-ac) 11-C	7500	3668
D. Ledbetter (191-ac) 9	8000	3664
E. E. Moore 5	6500	3775
Peter Tips (230-ac) 4	10,500	3656
Snyder & Timberlake, J. H. Stewart 1	4500	3710
Stanolind O&G Co., H. Schuyler 4-B	5000	3683
Stanolind-Pure Oil Co., R. A. Moores (251-ac) 10	10,500	3624
Sun Oil Co., J. J. Denton (147½-ac) 4-A	5000	3742
J. D. Henson (216-ac) 9	4500	3707
A. Lee (147-ac) 1	250	3661
R. G. Mason (59-ac) 3	6500	3634
The Texas Co., J. M. Price (90-ac) 4	5500	3604
Texas Jersey Oil Co., C. B. Hannah (6-ac) 2	9600	3634
Dr. C. L. Tubbs et al, J. H. Sharp (3-ac) 1	5000	3722
Sam K. Vierson et al, W. H. McCord (5.48-ac) 1	500	3644
Willard Oil Co., John Alford (21-ac) 2	3000	3690
KILGORE AREA—		
A.B.C.D. Oil Synd., J. L. McNeeley (17-ac) 3	10,000	3641
Brown-Wilson Co., M. R. Terrell (24-ac) 2	1200	3672
Central Drl. Co., (Pilot Oil Co.) W. Smith 2	15,000	3560
E. & F. Pet. Co., R. L. Williams (8-ac) 1	9600	3673
Empire Gas & Fuel Co., E. Muckelroy (30-ac) 3	12,000	3590
R. D. Farish (Farlyn Oil Co.) M. G. Barton-Goodman 1, blk 150	10,500	3547
Gulf Prod. Co., Mary Charles (71-ac) 7	8500	3586
C. E. Christian 7	9000	3739
Cora M. Griffin (51-ac) 8	8200	3634
T. C. Reeves (80-ac) 4	10,000	3572
Hammond Oil Co. (was Beard-Hammond), H. Alexander (25-ac) 2	9600	3637
Harry H. Holden et al, E. Register (13-ac) 2	5000	3659
L. R. Reid (70-ac) 3	3500	3713
Dora Thomas (59-ac) 9	7500	3610
Thos. D. Humphrey et al, A. Spear (23-ac) 7	8000	3590
Hunter & Rowe, J. B. Watson (10-ac) 2	13,000	3635
T. A. Johnson et al, M. T. Cole 1-B	8400	3545
Ed. M. Jones-Houston Oil Co., S. B. Wills (41-ac) 4	8500	3613
Koberg Oil Co., L. Martin-Atlantic (26-ac) 2	6500	3678
Bert Kouns et al, Hughey-Ross (10-ac) 1	8800	3557
Olson Bros. & Johnson, J. S. Powers (131-ac) 6	8200	3721
H. A. Pace et al, Dorcas Wills (20-ac) 2	9000	3686
Rajo Oil Corp., A. McComic-Shell (108-ac) 3	7000	3735
Republic Prod. Co., H. P. Leverett (108-ac) 4	9500	3761
Shell Pet. Corp., P. M. Bates (65-ac) 5	8000	3585
W. P. Moore 10	10,000	3678
Sinclair-Prairie Oil Co., S. G. Andrews (200-ac) 9	4500	3502
S. G. Andrews (200-ac) 10	4500	3500
A. A. King (290-ac) 23-A	9600	3500
A. A. King (147-ac) 6-B, Tract 5	11,000	3448
J. E. Lawther (317-ac) 5	8200	3600
A. A. Lockhart (87-ac) 8	9000	3678
Stanolind O&G Co., Rena Christian (86-ac) 3	10,000	3687
Sun Oil Co.-Cranfill-Reynolds Co., J. N. Campbell (107-ac) 1	8500	3557
Tidal Oil Co., M. G. Barton (193-ac) 10	11,000	3570
N. W. Buntyn (22-ac) 2-B	8000	3675
M. B. Hughey-Ross 6	11,500	3550
J. S. King (80-ac) 8	5000	3591
Travis & Kroll, K. of P. Lodge 1	8000	3566
W. C. Turnbow et al, Heard 1	7000	3585
Weaver-Crim Corp., B. B. Peterson (60-ac) 3	8500	3640
Woodley Pet. Co., Joe Ladd (50-ac) 4-A	13,500	3609
Zion Oil Co., R. W. Barnett-Tidal (24-ac) 1	*	3752
LONGVIEW AREA—		
Adams & Lyles, T. Anderson (62-ac) 4	15,000	3498
Amerada Pet. Corp., S. G. Smith (40-ac) 1	9600	3570
Arkansas Fuel Oil Co., M. D. Allison (62-ac) 5	8200	3582
Bonnie Calvin (65-ac) 3	11,500	3545
H. Stephens (57-ac) 2	10,000	3570
Atlantic Oil Prod. Co., J. C. Judge (520-ac) 1	12,000	3522
J. C. Judge (520-ac) 3	10,000	3517
H. W. Moyers (128-ac) 10	9500	3581
G. A. Porter (109-ac) 8	6000	3662
Atlantic-Sun Oil Co., Wm. Anderson (83-ac) 5	9000	3503
R. C. Barnswell (53.2-ac) 6-C	11,000	3519
Martin Hays (404-ac) 10	8500	3532
Atlantic-J. K. Wadley, Mose Turner (161.3-ac) 10	8000	3633
California Pet. Corp. of Ven., Mrs. I. Walker (120-ac) 8	7500	3655
Cranfill-Reynolds Co., F. T. Rembert (88-ac) 5	9000	3500
Danciger O&R Co., T. B. Stinchcomb (84-ac) 5	8000	3745
Deep Rock Oil Co. & Murphy, H. Pritchard (105-ac) 6	13,500	3560
Empire Gas & Fuel Co., Joe Bander (93-ac) 8	7200	3640
J. T. Jeter 4	9200	3602
Gulf Prod. Co., J. H. Bozeman (111-ac) 7	9500	3624
M. O. Sheppard (335-ac) 10	8000	3505
Humble O&R Co., C. C. Clemens (75-ac) 4	8200	3682
J. Phillips (75-ac) 4	7000	3661
I. D. Smith 9	9000	3616
B. K. Isaacs, Rec. Virginia O&R Co., Harris (21-ac) 2-A	11,000	3528
Island Oil Co., Akin 1	8500	3600
Magnolia Pet. Co., H. Fenton (50-ac) 3	10,500	3722
Lanie Graves (33-ac) 2	8000	3612
Todd-T. B. Stinchcomb (111-ac) 4	10,000	3575
Irene Ziegler (83-ac) 2	9200	3470
Margay Oil Corp., T. J. Christian (24.7-ac) 3	9500	3665
Marine Production Co., Richey 1	12,000	3637
Mudge Oil Co., J. D. Richardson (33-ac) 1-B	8800	3760
Pilot Oil Co., P. McGeorge (12-ac) 2	9000	3504
Ray & Miller, Floyd Jones (20-ac) 3	8000	3565
Roeser-Pendleton, Inc., W. R. Nicholson (94-ac) 5	5500	3631
Salome-Cooper Drl. Co., E. O'Byrne-Humble (301-ac) 3	9500	3671

Company, Well and Location	Initial Production Bbls.	Depth
Shell Pet. Corp., Oliver Lockett (25-ac) 2	11,500	3663
Jas. Moore (350-ac) 4	10,000	3558
Ed. A. Showers & W. A. Moncrief, Sheppard 1	8500	3647
Simms Oil Co.-Frank Buttram, W. R. Nicholson (800-ac) 7	7200	3719
Simms-Leon Ross, J. J. Flewellen (200-ac) 5	7800	3665
Sinclair Prairie Oil Co., Mary Lawson (46¾-ac) 7	13,000	3535
Stanolind O&G Co.-Simms Oil Co., P. McGeorge (100-ac) 4	13,000	3512
Stanolind-Simms-Peachblossom Oil Co., O. J. Albright (90-ac) 6	10,000	3634
Stroube & Stroube, J. M. Bumpass (33-ac) 3	9000	3495
The Texas Co., H. L. Phillips (136-ac) 3	2500	3707
Tidal Oil Co., W. Christian-Danciger (47.3-ac) 4	8500	3629
J. A. Woods & Salome-Cooper Drl. Co., J. H. Sheppard (57-ac) 3	12,000	3695
Yount-Lee Oil Co., Floyd Jones (51-ac) 5	10,000	3599
B. E. Rodden (80-ac) 4	9600	3562
VAN FIELD—		
Pure Oil Co., B. W. Camper (55-ac) 2	2000	3980
Mary P. Neill (100-ac) 6	100	2956
Mrs. Ella York (109-ac) 8	*	2977
The Texas Co., R. A. Tunnell (100-ac) 6	200	2948

EAST TEXAS

BOWIE COUNTY—

L. J. Timberlake-W. S. King, C. E. McElwee 1	*	3450

Wildcat Drilling Report

(Wells shut down not included)

ANDERSON COUNTY—W. H. "Bill" Roeser et al's M. A. Davey 1, P. G. Adams sur, dk. Jack W. Frazier et al's H. L. Hudson (198-ac) 1, M. Rionda sur, lcn.

BOWIE COUNTY—Joe M. Burnham-C. W. Robinson & John Greer's F. O. Weiss (949-ac) 1, J. Dean sur, elev 388 ft, anhydrite 2945-3030 ft, testing trace gas 3205-3305 ft. Lee J. Timberlake-Wm. S. King et al's C. E. McElwee (60-ac) 1, Martha A. Poor sur, elev 322 ft, dry and abn 3450 ft.

CASS COUNTY—Lapan-Lovejoy et al's S. A. Orr (320-ac) 1, G. W. Morris sur, dk.

CHEROKEE COUNTY—Bridges & Chandler et al's Berryman (300-ac) 1, H. Kimble-Dill sur, sd 1000 ft. W. N. Hamilton et al's Dr. P. E. Jones 1, J. D. Hamilton sur, materials. Wm. A. Stone et al's Mrs. J. I. Perkins (200-ac) 1, Thos. Stanford sur, dr 2720 ft. Wilson-Stubbs Oil Corp.'s M. F. Ragsdale (53-ac) 1, J. P. Wolfin sur, dr 2075 ft.

DELTA COUNTY—C. M. Joiner Pet. Corp. et al's J. A. Blackwell 1, H. Dunnetella sur, dr 2280 ft. J. O. Wheeler-Neuville-Yarbo et al (was Commercial Oil Dev. Co.'s) Ablovich 1, E. Chick sur, elev 507 ft, Austin chalk 1885-95 ft, sd 3733 ft.

ELLIS COUNTY—Armstrong Bros. et al's Cook (56-ac) 1, S. Frederick sur, sd 215 ft; Reeves 1, Larkin Newton sur, sd 300 ft; J. T. Winn 1, E. Melton sur, sd 1435 ft. Carl Brooks et al's Anderson (3900-ac) 1, E. C. Branch sur, lcn.

FRANKLIN COUNTY—T. E. Mayberry et al's M. L. Edwards 1, G. A. Miller sur, dk. J. F. Mills-McGee & Harper's L. S. Harper (118-ac) 1, W. N. Dawson sur, dr by junk 3250 ft.

HENDERSON COUNTY—B. L. Green et als (was J. M. Rogers') M. H. Gossett (103-ac) 1, L. D. Stover sur A-87 elev 341 ft, top Taylor lime 1450 ft, dr 2015 ft.

LAMAR COUNTY—Doyle & Jondreau's Joe Horn (178-ac) 1, R. P. Mayo sur, sd 2905 ft; L. Martin (132-ac) 1, Joseph Deck sur, sd 2445 ft.

LEON COUNTY—Allday & Schuffler's W. R. Thompson 1, Nathaniel M. Allen sur, lcn. Leon County Oil Co. (Claude Kavenaugh's) John Morris (200-ac) 1-A, A. F. McWhorter sur, moving in heavy rig, td 2540 ft.

LIMESTONE COUNTY—C. M. Joiner Pet. Corp. & Miller Drl. Co.'s W. Stephenson (54-ac) 1, Geo. Gentry sur, dk.

MORRIS COUNTY — Buchanan-Burkhalter et al's Staggers (65-ac) 1, Forbes & Nelson sur, elev 370 ft, hard pecan chalk 2526-3020 ft, base broken pecan 3095 ft, claim Austin chalk 3483-3506 ft, repairing rig 3554 ft. C. M. Joiner Pet. Corp.-Harrid Drl. Co.'s C. D. Brown 1, lcn. W. L. Murrell-Geo. L. Pace et al's Walcott-Lott (577-ac) 1, D. A. Russell sur, sp and sd.

RED RIVER COUNTY—L. G. Priest et al's G. W. Ware (1016-ac) 1, J. Burkham sur, elev 448 ft, dr 365 ft.

RAINS COUNTY—Lone Star Synd. (C. H. Bayless') Owenby (160-ac) 1, J. Alexander sur, elev 461 ft, top Midway 1130 ft, top Pecan chalk 1996 or 2043 ft, Austin 3468-3800 ft, (DD from 4036 ft) sd in shale 4100 ft.

RUSK COUNTY—T. E. Castle et al (was E. O. Butler's) R. H. Gary (50-ac) 1, J. Latham sur, (Trinity sand test) sd 1875 ft. G. A. Hathaway (was Laster & Miller's) Gray 1, Jas. McClain sur, elev 315 ft, Pecan chalk 2180-2537 ft, top Austin chalk 2980 ft, claim show oil 3150-80 ft, sd in Georgetown lime 3196-3365 ft, td 3519 ft, sd to cem 6⅝ cas.

UPSHUR COUNTY—Maddox Dev. Co.'s W. Starr (20-ac) 1, Chas. Cooper sur. elev 326 ft, Pecan chalk 2363-2925 ft, Austin chalk 3595-3651 ft, showed oil with salt water in Woodbine sand at 3667-3670 ft on D.S.T., and to set cas, as water believed above oil source.

WOOD COUNTY—Talko Pet. Corp.'s C. S. Ross (86-ac) 1, F. L. Smith sur, top Pecan 2892 ft, cem 6⅝-in cas 3135 ft, td 3158 ft. Wood County O&G Co.'s Guy Davis 1, John R. Clute sur, dr 1465 ft. F. H. Zeigen-DeGenther et al's M. L. McClain (66-ac) 1, Sam Brooks sur dk.

East Texas Border Counties

Wildcat Drilling Report

(Wells shut down not included)

HARRISON COUNTY—Great Eastern Oil Co.'s W. L. Rudd 1, Wm. Steele sur, (200 ac), lcn.

MARION COUNTY—H. M. Harold's P. E. Hussey 1, Chas. Lockhart sur, top Taylor 1850 ft, base AC 2371 ft, sd, repr rig, 2493 ft.

PANOLA COUNTY—Daisy O & G Co.'s Rucks Hrs. 1, Jno. Palmer sur, tested 5 joints mud with Edwards tester, 3351-91 ft, sd 3391 ft.

SHELBY COUNTY — General Minerals Corp.'s Pickering 2, D. S. Haight sur, fsh ds 2745 ft. Prairie Creek Crude Co.'s Ellington 1, sp and sd to finish rigging up. Wray & Dunbar's Hayden 1, D. T. F. Yordt sur, top PG 1945 ft, fsh ds 2032 ft chalk.

Permits for Texas Wells

ARCHER COUNTY—White, Duncan, Holt & Tedford, Wichita Falls, S. Webb, 40, 5, I&GN sur, 750 ft from n and 450 ft from e line. Petroleum Prod. Co., Wichita Falls, J. W. Campbell, 65, 2, B 1, DCSL sur No. 3, 150 ft from n and w lines. Deep Oil Dev. Co., Wichita Falls, Crawford-Plowman, 41, 1, H. Corzine sur, 330 ft from s and w lines of Blk. 16. United Prod. Co., Wichita Falls, J. F. O'Donohoe, 160, 1, Blk. 1, S. P. Ry. sur, 1170 ft from s and e lines. White, Duncan, Holt & Tedford, Wichita Falls, L. Webb, 40, 3, Blk. 1, I&GN sur, 150 ft from e and 1050 ft from s line. Continental Oil Co., Wichita Falls, C. L. Abercrombie, C, 432, 1, B 23, S. P. Ry. sur, 3805 ft from w and 2280 ft from s line. Moran Co., Wichita Falls, S. Webb, 40, 1, I&GN sur, 150 ft from n and 450 ft from e li Blk. 6.

ANGELINA COUNTY—A. B. C. Oil Co., Lufkin, W. A. Abney, 23, 1, J. L. Quinalty sur, 1024 ft from n and 225 ft from e line.

BAYLOR COUNTY—Consolidated Oil Co., Wichita Falls, W. H. Portwood, 80, 2A, 1281 TE&L sur, 779 ft from e and 550 ft from s line.

BEXAR COUNTY—Chiquita Oil Co., San Antonio, A. C. Hunter, 393, 2, S 14, J. Martinez sur, 665 ft s of No. 1.

CALDWELL COUNTY—D. R. Buchanan, Washington, Penna., M. C. Nugent, 46, 1, S. Seal sur 150 ft from n and w lines.

CLAY COUNTY—Seitz, Comegys & Seitz, Wichita Falls, L. S. Wright, 320, 1, 2643 TE&L sur, 1716 ft from s and e lines of sec.

COLORADO COUNTY—V. F. Neuhaus et al, San Antonio, M. C. Barnett, 80, 1, O. K. Winn sur, 230 ft from w and 330 ft from s line.

DUVAL COUNTY—A. R. Anderson, Laredo, E. Riley, 3, 1, S 44, SW¼ of SW¼, 150 ft from e and 250 ft from s line. Windsor Oil Co., Houston, L. L. Cummings, 20, 1, S 44, J. Poitevent sur, 150 ft from w and 450 ft from s li e½ nw¼. Hynes & Nessly, San Antonio, A. Weil, 320, 1, Sec. 130 sur, 200 ft from nw and 2860 ft from ne of sec.

EASTLAND COUNTY—Wm. A. Hudson, Fort Worth, F. P. Dunman, 228, 2, S 10, B 2, H&TC sur, 750 ft from n and 950 ft from w line.

FALLS COUNTY—M. M. Miller, Waco, C. A. Simank, 247, 1, Peterson sur, 960 ft from n and 1319 ft from w line. Hartman, Zander & Hodde, Perry, H. T. Barton, 22, 1, Basquez & Morgan sur, 65 ft from n and 225 ft from w line.

FORT BEND COUNTY — Humble Oil & Ref. Co., Houston, Lockwood-Sharp, A, 220, 4, Jno. Rabb sur, 1000 ft from w and 300 ft from s line; J. H. P. Davis, 1000, 2, Robt. Peebles sur, 600 ft from w and 325 ft from n line.

GREGG COUNTY—C. P. Dow, Dallas, S. Smith, 4, 1, M. Scott sur, 327 ft s of center of n line. Lacy Pet. Co., Longview, T. D. Anderson, 13, 2, G. W. Hooper sur, 330 ft from n and w lines; 3, 330 ft from s and w lines. Twinn Oil Co., Longview, M. Bonner, 148, 7, J. McRae sur, 330 ft from s and w lines. J. G. Beard et al, Tyler, W. L. Fuller, 67, 3, M. Alexander sur, 660 ft e of No. 1. Jas. M. Ross, Dallas, Fee, 6, 3, C. H. Alexander sur, center. Champlin & Bass, Inc., Tyler, J. B. Watson, 23, 3, J. S. Caruthers sur, 156 ft from w and 330 ft from s line. Robt. Lacy, Longview, Fee, 3, 2, M. Van Winkle sur, 116 ft from w and 150 ft from s line. Jackson, Wise & Snedden, Tyler, R. Corbin, 41, 4, H. H. Edwards sur, 200 ft from n and 330 ft from e line. S. F. Jordan, Gladewater, R. Walker, 10, 1, E. A. Lambert sur, 700 ft w of center of e line. East Texas Loan & Inv. Co., Dallas, G. Anderson, 12, 3, C. H. Alexander sur, 353 ft n of No. 2. K. B. Oil Co., Tyler, J. M. Dickens, 5, 1, M. Van Winkle sur, 150 ft from s and w lines. Mission Oil Co., Tyler, Clayborn, 46, 4, 1. Baity sur, sw corner. Danciger Oil & Ref. Co., Fort Worth, G. S. Mattox, 39, 3, D. Sanchez sur, 330 ft from n and e lines. Arkansas Prod. Co., Longview, I. Adkins, 9, 2, D. Dainwood sur, 792 ft n of No. 1. F. L. Luckel, Houston, J. B. Doby, 2½, 1, W. H. Castleberry sur, center. Gulf Prod. Co., Houston, S. Hilburn, E, 273, 37, L. B. Outlaw sur, 660 ft w of No. 36; 36, 1103 ft from e and 522 ft from s line; 35, 660 ft s of No. 37; 34, 660 ft e of No. 35; R. H. Still, 189, 8, Jno. Wilkinson sur, 700 ft from e and 330 ft from s line; S. Hilburn, C, 69, 28, A. Norris sur, 331 ft from w and 347 ft from s line; M. T. Cole, 161, 10, J. Meador sur, 330 ft from e and 990 ft from s line; A. V. Backe, 69, 9, G. W. Hooper sur, 185 ft from w li and 450 ft sw of No. 2; L. D. Crim, 70, 6, W. P. Chisum sur, 308 ft s of No. 3; J. C. Judge, 518, 18, F. W. Johnson sur, 660 ft s of No. 17; 17, 330 ft from e and 2600 ft from n line; S. Hilburn, E, 273, 32, Jno. Wilkinson sur, 2090 ft from w and 990 ft from s line; C. Brown, 254, 13, M. Scott sur, 662 ft from w and 2424 ft from s line; M. O. Shepperd, 335, 17, G. R. Rains sur, 330 ft e of center of w line; 16, 330 ft n of center of s line; J. C. Judge, 518, 16, F. W. Johnson sur, 1400 ft from n and 400 ft from e line; M. O. Shepperd, 335, 14, G. R. Rains sur, 1435 ft from w and 996 ft from s line; G. W. Culver, 203, 13, Jno. Wilkinson sur, 610 ft nw of No. 6; R. H. Still, 189, 5, Jno. Wilkinson sur, 110 ft e

of center of w line; E. L. Walker, 42, 4, Jno. Tate sur, 330 ft from s and w lines. Columbia Oil & Gas Co., Dallas, A. Christian, 17, 3, G. W. Hooper sur, 208 ft from n and 160 ft from w line; W. M. Harley, A, 45, 6, Wm. Robinson sur, 153 ft from w and 350 ft from s line; 3, 330 ft from sw and 185 ft from se line; 4, 891 ft from w and 230 ft from n line; J. B. Doby, A, 42, 5, W. M. Castleberry sur, 330 ft from n and 221 ft from w line; 6, ne corner; J. B. Doby, 39, 3, W. M. Castleberry sur, 330 ft from n and 218 ft from w line; 4, 1080 ft from n and 217 ft from w line; C. J. Dollahite, 41, 3, D. Sanchez sur, 152 ft from n and 252 ft from w line. Magnolia Pet. Co., Dallas, R. L. Saulter, 55, 5, H. H. Edwards sur, 330 ft from s and e lines; R. H. Rowland, 12½, 1, M. Van Winkle sur, 150 ft from n and w lines; 2, 267 ft from e and 150 ft from s line. Shell Pet. Corp., Dallas, O. Lockett, 25, 2, D. Ferguson sur, 631 ft n of No. 1; S. C. Fishburn, 100, 3, F. W. Johnson sur, 330 ft from n and e lines; T. B. Stinchcomb, 94, 4, B. N. Hampton sur, 392 ft from w and 330 ft from s line; L. Butts, 40, 3, W. P. Chisum sur, 330 ft from n and w lines. Sun Oil Co., Dallas, G. Reese, 124, 7, J. Hoy sur, 660 ft n of No. 5; M. Strong, 59, 5, Jno. Blair sur, 310 ft e of center of w line; J. T. Loden, 100, 6, D. Sanchez sur, 660 ft s of No. 3; J. Rollins, 87, 4, M. Scott sur, 302 ft from w and 354 ft from s line. Yount-Lee Oil Co., Beaumont, Stuckey-Thrasher, 80, 5, G. W. Hooper sur, 330 ft from s and 990 ft from e lne; H. Stephens, 57, 4, W. H. Castleberry sur, 330 ft from n and e lines; M. M. Custer, 75, 3, I. C. Skillern sur, 330 ft from w and 1035 ft from s line. Arkansas Fuel Oil Co., Shreveport, La., L. Y. Tuttle, 61, 5, W. H. Castleberry sur, 330 ft from n and e lines; Adrian-McCrary, 65, 6, W. H. Castleberry sur, 330 ft from n and 990 ft from e line. Empire Gas & Fuel Co., Gladewater, O. Lockhart, 75, 4, Wm. McCurry sur, 330 ft from n and 354 ft from e line; J. L. Spurrier, 52, 4, W. H. Castleberry sur, 330 ft from s and w lines. Fain-McGaha Oil Corp., Wichita Falls, R. Corbin, 40, 3, H. H. Edwards sur, 200 ft from s and 150 ft from e line. East Texas Ref. Co., Dallas, A. Christian, 65, 7, G. W. Hooper sur, 650 ft se of No. 3. Humble Oil & Ref. Co., Houston, J. M. McFarland, 71, 3, Crosby & Rigsby sur, 2053 ft from n and 330 ft from e line. Texas Co., Shreveport, La., S. D. Walker, 213, 5, S. L. Davis sur, 660 ft nw of No. 4. Cranfill & Reynolds, Houston, L. Howard, 88, 2, M. Scott sur, 265 ft from w and 400 ft from n line. Atlantic Oil Prod. Co., Dallas, J. Bander, 84, 8, D. Ferguson sur, 685 ft n of No. 3; Clayton, 40, 5, L. B. Outlaw sur, 330 ft from s and e lines.

HARDIN COUNTY—Rio Bravo Oil Co., Houston, Fee, 158, C140A, J. F. Cotton sur, 225 ft w of No. 82A. M. E. Pivoto, Sour Lake, F. H. Carpenter, 1, 12, B 8, S. Jackson sur, 30 ft w of center of e line. Parafine Oil Co., Houston, Fee, 12, 93, F. H. Green sur, 231 ft from w and 30 ft from s line.

HARRIS COUNTY—Christian Bailey Pet. Co., Houston, T. W. Horn, 2, 2, J. B. Jones sur, 80 ft from e and 100 ft from s line. Sun Oil Co., Beaumont, R. L. Blaffer, 292, 54, R. Dunman sur, 95 ft s of No. 55; 56, 150 ft n of No. 55.

IRION COUNTY—Adkins Bros. & Straughan, Mertzon, J. Kinser, 1490, 1, S 691, H. Coerper sur, 1320 ft from n and 1000 ft from w line.

JACK COUNTY—R. J. Brown, Henrietta, S. J. Christian, 40, 2, E. Smith sur, 150 ft e of center of w line.

JEFFERSON COUNTY—Coast Oil & Gas Co., Port Arthur, J. O. B. Young, 40, 1, Rge. F, Blk. 5, Lot 6, 250 ft from e and 160 ft from s line.

JIM HOGG COUNTY—E. E. Watts, Laredo, I. Gomez, 640, 2, S 125, Blk. 11 sur, 1320 ft from n and 1245 ft from e line.

LIBERTY COUNTY — Hannah Oil Co., Houston, Bashara, 20, 1, J. Devore sur, 591 ft from e and 75 ft from s line. Houston Prod. Co., Houston, Baldwin, 6, 1, J. Devore sur, 50 ft from e and 222 ft from s line. Eclipse Oil Co., Beaumont, Belson, 1½, 2, J. Devore sur, 30 ft from n and 26 ft from w line.

MONTGOMERY COUNTY—Houston Oil Co., Houston, R. L. Cartwright, 300, 2, Jno. Davis sur, 330 ft from s and 400 ft from e line; C. Brent, 160, 1, D. W. Collins sur, 1309 ft from e and 330 ft from s line.

MONTAGUE COUNTY—Bridwell Oil Co., Wichita Falls, W. B. Gist, 60, 1, Geo. Nichols sur, 1530 ft from e and 1060 ft from s li of sur.

MOORE COUNTY—Shamrock Oil & Gas Co., Amarillo, W. W. Burnett, 80, 1, S 359, B 44, H&TC sur, 330 ft from w and 660 ft from s li of sec; R. O. C. Brumley, 320, 2, S 360, B 44, H&TC sur, 990 ft from s and e lines of sec.

ORANGE COUNTY—Continental Oil Co., Orangefield, O. Chesson, 22, 8, Wm. Dyson sur, 125 ft from n and 150 ft from e line; 6, 300 ft from ne and 50 ft from s line; 3, 50 ft s of center of n line.

RUSK COUNTY—Smith-Bohlssen, Houston, M. R. Terrell, 64, 2, W. R. Cooke sur, 335 ft from s and e lines. Malernee & Bullock Oil Co., Oklahoma City, Okla., E. H. Alford, 2½, 1, T. J. Moore sur, 233 ft from n and 126 ft from e li Blk. 42. Combined Oil Int., Fort Worth, G. W. Eaton, 147, 10, F. Cordova sur, 230 ft from n and 150 ft from e line. Hastings & Dodson, Kilgore, E. B. Alford, 5, 1, T. J. Moore sur, 233 ft from n and 142 ft from w li Blk. 27. H. W. Whisenant, Dallas, G. W. Eaton, 20, 3, F. Cordova sur, 230 ft from n and 150 ft from w line. Adams & Lyles, Lockhart, A. Kersh, 36, 2, E. B. Foulks sur, 179 ft from e and 1831 ft from n line; R. H. Vise, Dallas, N. Cooper, 23, 2, T. J. Moore sur, 150 ft from s and w lines. Kirby Pet. Co., Houston, J. Reddick, 97, 5, T. Grace sur, 330 ft from w and 350 ft from s line; 6, 330 ft from e and 350 ft from s line. Trico Oil Co., Dallas, R. A. Motley, 20, 2, F. Cordova sur, 330 ft from s and w lines. Snyder, Spradlin & Olive, Dallas, 1. Brightwell, 10, 2, R. W. Smith sur, 676 ft from e and 150 ft from n line. Champlin & Bass, Inc., Tyler, R. G. Mason, 41, 3, J. B. Cadena sur 244 ft from n and 1550 ft from e line. Louisiana Oil & Ref. Co., Shreveport, La., W. M. Jernigan, 111, 8, M. McCabe sur, 660 ft w of No. 5. Jackson, Wise & Snedden, Tyler, J. H. Stewart, 27, 3, J. Womack sur, 200 ft from n and 150 ft from e line. Everts Drilling Co., Kilgore, H. F. Crews, 60, 4, J. Womack sur, 395 ft from n and 330 ft from w line. Humble Oil & Ref. Co., Houston, T. Barton, 50, 2, T. Grace sur, 330 ft from n and 600 ft from e line; C. Pilgreen, 136, 6, J. M. Barton sur, 330 ft from n and e lines; I. Holt, C, 99, 5, W. H. Bears sur, 330 ft from n and w lines; L. D. Crim, 906, 59, I. Ruddle sur, 330 ft from e and 737 ft from s line; S. S. Laird, A, 230, 14, I. Ruddle sur, 330 ft from w and 740 ft from s line. East Texas Oil & Ref. Co., Dallas, R. Pool, 30, 2, M. J. Pru sur, 330 ft from n and w lines; J. Bell, 29, 3, S. P. Hollinggsworth sur, 330 ft from n and 270 ft from w line; D. Wills, 83, 4, W. P. Chisum sur, 660 ft w of No. 3. Gulf Prod. Co., Houston, G. G. Turner, 312, 14, F. Cordova sur, 660 ft e of No. 8; 16, 625 ft from e and 1400 ft from s line; 15, 660 ft e of No. 11. Sun Oil Co., Dallas, R. J. Hendon, 120, 1, Ximinez & Pru sur, 1193 ft from n and 330 ft from w line; E. Till, 127, 3, M. V. Pena sur, 644 ft n of No. 1. Magnolia Pet. Co., Dallas, N. Bean, 100, 3, J. Lewis sur, 330 ft from n and e lines. Texas Co., Shreveport, La., A. W. Kersh, 211, 3, E. B. Foulks sur, 1831 ft from n and 179 ft from w line. Sinclair Prairie Oil Co., Fort Worth, R. C. Ledbetter, 202, 12, W. D. Porter sur, 957 ft from n and 330 ft from w line; W. D. Kinney, 579, 32, J. B. Cadena sur, 330 ft from e li Blk. 31. Stanolind Oil & Gas Co., Fort Worth, W. H. Siler, 949, 8, M. Walker sur, 2473 ft from n and 1610 ft from w line; 15, 520 ft from n and 330 ft from w line; 11, 1513 ft from n and 1600 ft from w line. Arkansas Fuel Oil Co., Shreveport, La., G. Ferguson, 73, 5, M. J. Pru sur, 660 ft s of No. 3. Mid-Kansas Oil & Gas Co., Shreveport, La., J. M. Price, 55, 5, J. B. Cadena sur, 1013 ft from s and 330 ft from e line.

SMITH COUNTY—Sinclair Prairie Oil Co., Fort Worth, B. Wilson, 65, 6, Jas. Jordan sur, 489 ft nw of No. 3; A. S. Jarvis, A, 266, 17, J. Vargas sur, 503 ft e of No. 8; A. Wiley, 331, 5, Jas. Jordan sur, 364 ft from e and 330 ft from s line. Gulf Prod. Co. & Hinton, Houston, H. Mayfield, 193, 5, Jas. Jordan sur, 330 ft from s and w lines; 6, 466 ft e of No. 5. Texas Co., Shreveport, La., A. S. Jarvis, 115, B 3, M. S. Coy sur, 1650 ft from n and 330 ft from e line. Sun Oil Co., Dallas, R. L. Henson, 54, 4, J. Vargas sur, 1176 ft n of No. 3; H. A. Pace, A, 41, 3, J. Vargas sur, 1183 ft n of No. 2; A. V. Ritch, B, 54, 4, J. Vargas sur, 1182 ft n of No. 3.

STARR COUNTY — Sioux Oil Corp., Rio Grande City, Goodrich-Wood, 160, 3, Por. 81, Blk. 2, Tr. 5, 150 ft from n and 1149 ft from w line. R. E. Joss, Edinburg, T. C. Lewis, 2, 1, Sh. 22, Por. 80, 207 ft from e and 150 ft from s line.

SHACKLEFORD COUNTY — S. B. Edwards, Fort Worth, Sammons 240, 1, S 22, Blind Asy. sur.

UPSHUR COUNTY — Woode & Salome-Cooper Drilling Co., Longview, J. A. Sheppard, 57, 4, T. Allen sur, 330 ft from n and 273 ft from w line. Hawkeye Pet. Corp., Longview, H. Fenton, 13, 2, G. W. Hooper sur, 330 ft w of center of e line. Lester & Duffield, Fort Worth, J. T. Jones, 120, 3, Wm. King sur, 450 ft from w and 330 ft from s line. Rancho Oil Co., Fort Worth, J. K. Edwards, 106, 9, D. Ferguson sur, 1030 ft from w and 330 ft from n line; 8, 660 ft s of No. 6. Humble Oil & Ref. Co., Houston, I. D. Smith, 161, 10, H. H. Edwards sur, 1418 ft from n and 500 ft from e line. Texas Co., Shreveport, La., J. Williams, 93, 1, J. Crouch sur, 330 ft from n and e lines.

UPTON COUNTY — Geo. E. Farley, McCamey, J. F. Lane, A, 40, 3, S 36, B 1, MK&T sur, 330 ft from s and e lines of nw¼ of sw¼.

VAN ZANDT COUNTY — Pure Oil Co., Fort Worth, L. A. Dowdle, 40, 2, W. Daniel sur, 308 ft from e and 200 ft from s line; H. P. Tunnell, 131, 3, J. Rose sur, 660 ft from n and 825 ft from e line; E. York, 40, 9, J. Walling sur, 200 ft from n and e lines; I. D. Miller, 60, 4, J. Walling sur, 200 ft from e and 250 ft from s line. A. C. Roan, Mineola, W. E. Price, 7, 1, J. Walling sur, 150 ft from n and w lines.

WICHITA COUNTY—G. I. Oil Co. & Jennings, Wichita Falls, G. Jennings, 60, 1, S 8, HT&B sur, 150 ft from e and 413 ft from s line. Schlaffke & Blair, Electra, W. P. Herron, 42, 1, W. H. Taylor sur, 1050 ft from n and 150 ft from w line. Mogren & Anderson, Electra, E. E. Goetze, 151, 28, No. 2 SA&MG sur, 1300 ft from w and 500 ft from s line. W. J. Grisham, Dallas, Lore, 100, 1, J. M. Sharp sur, 150 ft from e and 600 ft from s line. Aaron Cohen, Baltimore, Md., J. E. Roller, 40, 6, C. Larbaletrier sur, 150 ft from n and 250 ft from e line. R. R. Clark et al, Wichita Falls, J. F. Bickley, 400, 23, S 2, C&M sur, 1525 ft from n and 988 ft from e line. C. W. Clark, Wichita Falls, J. M. Brooks, 40, 1, B 25, PPCSL sur, 150 ft from n and w lines.

WARD COUNTY—Lee Williams, El Paso, G. S. Combs, 160, 1, Sec. 4 sur, 300 ft from n and w lines.

WILBARGER COUNTY—Texas Co., Wichita Falls, W. T. Waggoner, A, 401, S 5, B 13, H&TC sur, 660 ft s of No. 36.

YOUNG COUNTY—Bridwell Oil Co., Wichita Falls, W. T. French, 160, 2, 31 TE&L sur, 760 ft s of No. 1. Seitz, Comegys & Seitz, Wichita Falls, R. T. Trunball, 40, 1, 612 TE&L sur, 150 ft from s and e lines of sec. Texas Co., Wichita Falls, D. G. Killion, 465, 1, D. R. Adkins sur, 1000 ft from e and 330 ft from s li Blk. 120. Stasney & Krause, Graham, W. W. Cope, 160, 1, 1475 TE&L sur, 750 ft from n and 150 ft from w line. Kleiner Bros., Cisco, J. M. Isenhour, 320, 1, 2274 TE&L sur, 1075 ft from n and 150 ft from e line. C. J. Kleiner, Cisco, Belknap Coal, 80, 1, 23 TE&L sur, 450 ft from e and 150 ft from s line.

ZAPATA COUNTY—Allied Oil & Gas Co., Laredo, E. Gutierrez, 532, 28, Sh. 4, Comitas sur, 482 ft from e and 1027 ft from s line; 29, 150 ft from e and 925 ft from s line. Phillips Rosenburg, Laredo, Laurel, 40, 1, S 271, Blk. 10, 249 ft from n and 366 ft from e line; 2, 549 ft from n and 150 ft from e line. H. H. Coffield, Laredo, S. Bustamante, 80, 2, Sec. 63 728 ft nw of No. 3; 3, 150 ft from s and e lines. Newton Drilling Co., Laredo, R. Garza, 40, 2, Sec. 161, 225 ft from n and 998 ft from w line. Shankle & Newton Oil & Gas Co., Laredo, F. Cuellar, 40, 17, S 65, Blk. 14, 675 ft from w and 510 ft from s line. Trevino Oil Corp., Laredo, M. Trevino, C, 2, Sec. 412, 160 ft from n and 150 ft from w li Blk 15.

NORTH and WEST TEXAS

Chalk Hills Wells Strike Water, Forced to Plug Back; T. P. Gets Unusual Falls County Flush.

H. H. KING, *Staff Representative, Fort Worth, Texas*

Chalk Hills Outpost Wells Drill Into Water

Wichita Falls, Texas.—Outpost tests drilling to the northwest and south of the Chalk Hill field's 2200-foot oil producing area in east central Archer County have drilled into the water.

Lester T. Burns and C. B. Long's L. T. Wilson-Gulf 1-T, cored broken sand at 2226-33 feet after cementing 6⅝-inch pipe at 2221 feet, and flowed for 30 minutes, then quit. Swabbing of the well to try and revive the flow brought in the water. It is planned to plug back and try for a producer in the top section of the Canyon. This northwest outpost is a southwest offset to Deep Oil Development Company et al's Wilson 1, lease 5, which is installing taper tubing to try for a natural flow from Canyon at 2238-44 feet, with only a small amount of water reported.

Deepening of Falls Refining Company et al's Wilson 1, located 2000 feet south of the main field, from 2215 to 2222 feet failed to stimulate the oil output, but yielded bottom hole water. This well will also plug back and try for a pumper in the Canyon at 2187-2215 feet.

Failure of nearby lease and royalty owners to lend financial support has resulted in two proposed 2300-foot, or Canyon lime tests at scattered points in Archer County being abandoned at shallow depths. Consolidated Oil Company's L. H. Tarr 1, located in Section 138 and about four miles southwest of Chalk Hill, quit at 1450 feet. Gilliland & Rosser et al's Walsh-Gulf 3, located on the northeast edge of the Harmel pool, halted at 1422½ feet.

A. Z. Kouri et al's Mrs. C. A. Montgomery 1, which was listed last week as a shallow discovery in Archer County and about 1½ miles northwest of Archer City, is rated at 50 barrels daily on pump from sand at 1120-24 feet, with a surface elevation of 976 feet.

The northeast Holliday, or Fain-McGaha pool, located on the Archer-Wichita County line, extended the oil area about 1600 feet to the east through the completion of J. W. Campbell 1, making an average of 85 barrels daily during first three days on pump from regular sand at 1786-88 feet. Carl B. Bailey and others' H. F. Harmel 1, located about 1400 feet west of the nearest porduction in the pool, tested water with small show of oil in sand at 1797-1800 feet, and will probably be abandoned after deepening to determine if a second sand exists.

CANYON AND STRAWN SAND PRODUCERS IN ARCHER COUNTY, TEXAS

Company—	Elev.	Top Gunsight Lime	Top Canyon Lime	Top Producing Horizon	Date Comp.	Initial Prod.
Deep Oil Dev. Co. et al's Wilson 1, SWc Sec. 76, A.T.N.C.L. Sur. (Disc. well)..	971	1369-1371	2100	2216-2224	3-21-31	740
Deep Oil Dev. Co.-Lindsay Drlg. Co.'s Wilson 1, Lse. 1, NWc E½ NW¼ Sec. 119, A.T.N.C.L. Sur.	965½	1368-1371	2096	2196-2208	11- 3-31	800
Wilson 2, Lse 1, (660 ft east of No. 1, Lse. 1	962	1366-1370	2083	2204-2217	2-11-32	715
Wilson 3, Lse. 1, (660 ft. south of No. 1, Lse. 1	960	1368-1372	2091	2201-2219	3-31-32	740
Wilson 1, Lse. 5, (SWc Lot No. 2, Sec. 75	971	1401-1405	2115	2238-2244	5-26-32	250
Wilson 1, Lse. 5-A, SEc Sec 75, A.T.N. C. L. Sur.	981	1374-1379	2155	2218-2241 (Tested 65 Bbls. 30 Min.) (Canyon pay 2247-2249 no test) (Canyon pay 2285-2300 no test) (Strawn pay 3614 3618 o. s. (Est. 100 Bbls. oil) (Strawn pay 3618-3640 dry sand) (Strawn pay 3640-3645 lime) (Strawn pay 3645-3650 w. s.) (Top Ellenberger 5340) (Hole full water 5745-5750 and pb to 3640 ft and shot 40 qts. at 3614-40 ft and comp. 5-1-32 pumping 100 Bbls. oil from Strawn).		
Wilson 2, lse. 5-A, (100 ft west No. 1, Lse. 5-A	980	1380-1384	2122	2223-2245	12-15-31	420
Wilson 3, Lse. 5-A, (660 ft. north No. 1, Lse. 5-A	995	1390-	2128	2242-2264	12-30-31	105
L. T. Burns & C. B. Long's Wilson-Gulf 1-T, NEc Lot No. 3, Sec. 75, A.T.N.C.L.	964	1382-1384	....	2226-2233 Flowed O&W, sd to pb.		
Lindsay Drlg. Co.-Deep Oil Dev. Co.'s Wilson 1, NEc W½ NW¼ Sec. 119, A. T. N. C. L. Sur.	961	1367-1369	2090	2202-2220	9- 5-31	400
Wilson 2, 660 ft s No. 1	960	1371-1375	2077	2195-2210	5- 3-32	350
Falls Ref. Co. et al's Wilson 1, NEc of E-40-ac of SW¼ Sec. 119	958	1363-1367	2102	2187-2222 Est. 50 Bbls., to pb.		

Grand Falls Well Flows 700 Barrels With Gas

San Angelo, Texas.—Presence of flush production in the Grand Falls district, Ward County, in quantities not equaled heretofore was established by Texas Pacific Coal & Oil Company's Henry James 3, located 1320 feet from the northeast and southeast lines Section 5, Block 34, H.&T.C. Ry. survey, making 700 barrels 35 gravity oil and 8,000,000 cubic feet gas from broken lime and sand at 2220-2320 feet. This well topped the lime at 2045 feet, with a surface elevation of 2535 feet.

North and West Texas Field Developments

NORTH TEXAS Completions

ARCHER COUNTY—		
Carl B. Bailey et al, W. R. Brown 2-B	40	1283
Consolidated Oil Co., L. H. Tarr 1.	*	1450
Moran Drl. Co., Dupriest 1	*	1500
Ikard 1	*	1080
Pruett-Webb 1	*	752
Petroleum Producers Co., Campbell 1	80	1788
Underwood Drl. Co., Ward Bros. 2.	*	1102
COOKE COUNTY—		
Luther Hedrick et al, J. W. Davidson 1	*	1507
Lon Development Co., Jones 1	*	1700
JACK COUNTY—		
Brazos River Gas Co., Moore 1	75	2990
WICHITA COUNTY—		
R. R. Clark et al, Bickley 20	40	875
N. H. Martin et al, Bolding 1	*	1754
Mogren-Anderson et al, Goetze 27 ..	15	510
WILBARGER COUNTY—		
The Texas Co., Waggoner 400	4	1056
Waggoner 10-B	*	2393
YOUNG COUNTY—		
Osie Bratcher-King Roy. Co., C. L. Lowe 1 ¶5 &	110	3890
C. J. Kleiner et al, Belknap 1, sec 23	*	712
The Texas Co., Kunkel 1, sec 2447..	*	1231

WEST TEXAS Completions

CRANE COUNTY—		
Gulf Production Co., J. T. McElroy 97	160	2980
HOWARD COUNTY—		
Schermerhorn Oil Co., Kloh-Rumsey-Abrams 5	1500	2500
IRION COUNTY—		
P. A. Johnston et al, F. Tankersley 1	15	1400
PECOS COUNTY—		
Buster Black et al, Iowa Realty Co. 1	*	1653
Cardinal Oil Co., Tippett-Kirby 11-E	100	475
WARD COUNTY—		
Texas Pacific Coal & Oil Co., Henry James 3, ¶3 &	1200	2320

SOUTH TEXAS

Second Bobrose Well Near Completion at Luling. Duval County Area Extended In Two Directions.

EARL POST, *Staff Representative, San Antonio*

Duval County Extension Busiest in South Texas

San Antonio, Texas.—The northern extension to the Government Wells field, Duval County, recently opened by Suttle et al, is rapidly becoming the hot spot of South Texas activity. Small pieces of acreage and rapidity of expansion of the producing area is expected to bring a score or more of operations immediately.

During the week, the field got two western extensions of fully a half mile each and a southern extension of nearly a mile, placing tracts ranging from town lots to 40-acre plots into virtually proven area.

Coffield et al's Wendt 1, located 150 feet from the south and east line of the northeast quarter of Survey 43, topped the sand at 2274 feet, drilled to 2292 feet and came in as a gasser. After flowing for about an hour, it showed oil and within another hour, it was putting oil into the tanks at the rate of 245 barrels daily. This well is a half-mile west and a bit north of the discovery.

One half-mile west and slightly south of the discovery, Southwest Drilling Company got a producer in R. Wendt 1, 150 feet from the south and east lines of Survey 43, offsetting the Rosita townsite on the west. This well topped the sand at 2282 feet and the total depth is 2291 feet. This well showed 1700 feet of oil in the hole when being swabbed through the tubing. The tubing was pulled and the well finally came in, flowing 35 barrels per hour through the 6⅝-inch casing on half-inch choke. It was shut in preparatory to rerunning tubing.

Interest turned nearly one mile to the south by the showing in two other wells. Anderson et al's Riley 1, Section 46, topped the sand at 2282 feet and set casing. The total depth is 2286 feet. Petroleum Finance Company topped the sand slightly deeper in C. W. Hahl 1, Section 46, and set casing. They will tend to link up the present Government Wells field and the new area.

R. B. Byrd's P. T. Wright 1, Survey 101, is drilling around 1200 feet. This well is about one mile north and a little east of production and likely in line for production. It is being watched with interest.

Sun Oil Company has considerable acreage in proven or semi-proven territory, some of which it has farmed out to Buchanan & Terrell for development. These operators have made the first two locations in Section 44.

Bob Rose Completing 2nd Well in New Luling Area

San Antonio, Texas.—Bobrose Oil & Refining Company, Inc., was drilling in Walker 1-B, three miles northeast of Luling, Caldwell County, June 30. This well topped a sand at 1770 feet in the Taylor marl and drilled to 1775 feet, where it was showing for possibly a large producer.

If completed as a producer, it either opens a new pool or extends the crevice producing area opened two months ago by the same operator. The crevice discovery, one mile due southwest, is producing from Austin chalk around 2200 feet.

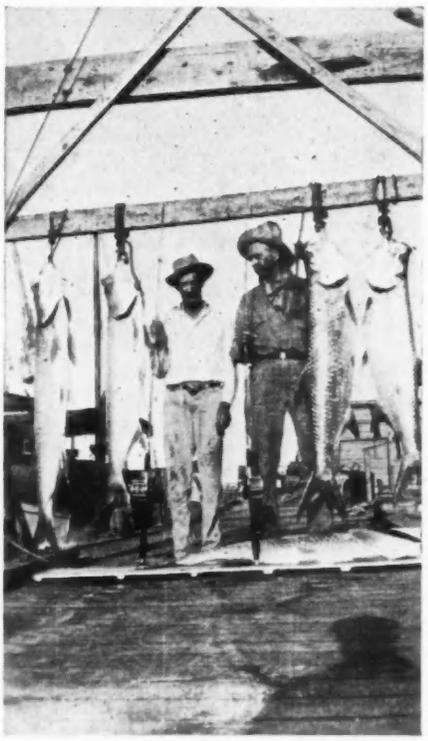
It is more likely that the well will open a new pool inasmuch as the formation is much higher and its actions are different from the crevice well

Porter and Townes' Dunlap 1, northwest offset to the Rose Crevice producer showed saturation at 2105-45 feet in the lower Taylor marl and upper Austin chalk and has set casing. Trinity Drillers, Inc., is spudding Dunlap 1, almost a due northeast offset to the crevice producer.

All of the above wells are located in the Solomon Seale survey.

Three Locations Made In Nueces County Field

San Antonio, Texas.—Three locations were made for new tests in the Saxet field, Nueces County, last week. Gulf Coast Oil Company is preparing to drill Perkins and LeGasse 2, 660 feet from the north and 990 feet from the east line of Section 26, Sheppard Farm lots subdivision. McCarthy, Rogers, Nix et al have located Isencee 1, 151 feet from the west line and 172



When it comes to fishing honors A. F. (Curley) Sales and John H. Shirk would like to make an entry. Here are their claims, written on the stationery of the Sultan Drilling Company, Inc., Oklahoma City:

Number 1, the largest one did not get away. A 12-foot, six-inch hammerhead shark, weight 1226 pounds, a battle of four hours.

Number 2, five silver king Tarpon, ranging in length from four feet, six inches to six feet, three inches, five hours of playing them.

Number 3, just ordinary pastime fishing, catch of 36 King fish, weight 261 pounds.

The fishing was done at Port Aransas and the Sultan Drilling Company men made entry in contest with reports of the fishing exploits recorded in The Oil Weekly, June 27, wherein the exploits of equipment and supply representatives were recorded. That, however, was a contest among members of that particular fishing expedition. Messrs. Sales and Shirk seem bent on taking in more territory.

feet from the north line of Black 12, Sheppard Farm Lots Subdivision. The third well is the Saxet Oil Company's W. A. Walton 2, 200 feet from the south line and 629 feet from the west line of the 266-acre tract.

Two wells are in process of completion. Gulf Coast Oil Company's B. Elder 2, Block 29, of the H. B. Sheppard Farm Lots Subdivision, is drilling in. A string of 9⅝-inch casing is set at 2731 feet and the sand is logged at 2732-40 feet. Same operator's Perkins and LeGasse 1 is still running wild, flowing about 25,000 barrels of salt water daily.

V. B. Hillegeist's McGregor 1, Survey 311, is drilling in, having a sand at 4067-75 feet. A string of 9⅝-inch casing is set to the top of the sand.

In the King gas field, Nueces County, Stanolind Oil & Gas Company's King 2, Section 23, a gasser at 3914-25 feet, has been deepened to 4024 feet, where it is shut down for orders.

Amerada Will Try Edwards Lime in Bexar County

San Antonio, Texas.—Amerada Petroleum Corporation has made location for an Edwards lime test to be drilled four miles northeast of the Cooksey pool, eastern Bexar County, and near the Wilson County line. The well is Peter Kiolbassa 1, 1000 feet from the east line and 600 feet from the south line of a 100-acre tract in Antonio Mancho survey No. 21, a part of a 4000-acre block.

Farther south, in Wilson County, Sun Oil Company's Tudyk 1, John Turner survey, topped the Austin chalk at 2538 feet and is now drilling at 2620 feet. It is on a unit block composed of Sun Oil Company, Magnolia Petroleum Company, Humble Oil & Refining Company and Empire Oil & Gas Company.

Bob Rose Trading His Well For Refinery at Luling

San Antonio, Texas.—Although the deal had not been consummated late last week, negotiations were under way whereby Bobrose Oil & Refineries, Inc., San Antonio, will quite likely acquire possession of the Luling, Texas, skimming plant which it is operating under lease from Cranfill-Reynolds Company of Houston. The plant is credited with capacity for handling somewhat over 2500 barrels of crude oil daily, and in addition to the refinery one 80,000-barrel steel tank and a pipe line gathering system are involved in the proposed sale. It is understood that Bobrose Oil & Refineries, Inc., has plans for construction of a modern cracking unit at the Luling plant some time this summer.

Jacob Pool Appears to Extend to Live Oak County

San Antonio.—Jacob, Buzzini & Pickett's Jacob 1-B, in Section 15 GH-&H Railway survey, near the Live Oak County line, apparently is providing a one and one fourth mile extension to the recently discovered Jacob pool in McMullen County. The well topped the sand at 1054 feet and took a three-foot core, which was highly saturated. Casing has been set and will be drilled in within a few days.

In the main pool, this concern has set casing on top of the sand at 939 feet in Jacob 4-A, which is 660 feet north and the same distance west of Jacob 3-A.

Complete Fourth Failure In Goliad County

San Antonio, Texas.—Stanolind Oil & Gas Company and John F. Camp recorded their fourth failure in the Cabeza Creek area of Goliad County when Pettus 4 was abandoned at 4481 feet. The well is 1000 feet south and 55.5 degrees west of Pettus 1, in lot 11, S. Vela survey. The first well made a non-commercial producer around 4250 feet.

DeWitt County Wildcat Tests Dry, Drilling Ahead

San Antonio, Texas.—The Texas Company encountered a sand at 4956-77 feet in McCrabb 1, Dewitt County, which tested dry and is drilling ahead. The well is 4000 feet from the northeast line and 1435 feet from the southeast line of the 794-acre tract in the James Quinn survey, three miles west of Thomaston.

South Texas Field Developments

Completions

Company, Lease and Location	Initial Production Bbls.	Depth
BASTROP COUNTY—		
Campbell & Tong, A. Yoast 8, A. Garcia sur, top serpentine 1464 ft	20	1530
BEE COUNTY—		
The Texas Co., Gremmel 5, Jno. Pace sur, top sand 3891 ft	250	3906
BEXAR COUNTY—		
Davis, Noble & Bender, S. A. Farms 1, blk 81, S. A. Farms, top Edwards 1742 ft, flow fresh water..	*	1898
DUVAL COUNTY—		
Coffield et al, Wendt 1, sur 43. Gov't Wells, top sand 2274 ft, flow on ¼-inch choke	245	2292
Humble O&R Co., P. White 5, Sur. 58, Gov't Wells, top sand 2349 ft, flow ½-inch choke	450	2358
Southwest Drlg. Co., R. Wendt, Sur 43, Gov't Wells, top sand 2281 ft, flow ½-inch choke	840	2292
GOLIAD COUNTY—		
Stanolind O&G Co. & Camp, Pettus 4, Lot 11, S. Vela sur, dry	*	4481
ZAPATA COUNTY—		
Allied O&G Co., Gutierrez 28, Share 4, Comitas Grant	150	1475
O. W. Killam, Medina 10, Share 34, Comitas Grant	¶1	1460

Wildcat Drilling Report

(Wells shut down not included)

BANDERA COUNTY—F. A. Brown's R. B. Watson 1, sur 70, dr 150 ft.

BEE COUNTY—Fitzgerald & Pryor's Albert Johnson 1, M. Alcorle sur, lcn. Gulf Coast Oil Co.'s Hicks 5, Normanna pool, dk. Humble O & R Co.'s Laura Thompson 1, Garrett Roche sur, dr 5940 ft. Texas Gulf Prod. Co.'s Webb Hearn 1, 1500 ft n Wood 1, P & T Irrigation Co. sur, sand 5948-50 ft, show heavy gas, some oil, sidetrack about 5800 ft to avoid shale cavings. C. F. Nichols' J. P. Harris 1, Durango sur, sec 2, dr 3500 ft. United Prod. Co.'s J. Scott 1, (dr by Texas Co.), J. Uranga sur, 1 mi s Normanna, dr 4620 ft.

BEXAR COUNTY—American Gas Co.'s Kennon 5, M. F. Rodriguez sur No. 4, Gas Ridge, fsh 2250 ft. Alamo Natural Gas Co.'s Coreth 1, Menchaca sur, 2500 ft e Eckert pool, prep to set cas about 1000 ft to test show; Gembler 4, Menchaca sur, dr 450 ft. S. A. Blount et al's S. A. Land & Dev. Co. 1-A, Perez sur, fsh 940 ft. Eckert et al's Edwards Heirs 1, re-dr 1400 ft. Moore & Jauer's H. Ellison 1, 14 mi w S. A., resume operations 2250 ft. C. J. Webster O&G Co., S. A. Irrigated Farms 1, sp in.

BROOKS COUNTY—Allen & Morris, Holbein-Wormser 2, Palo Blanco de Maguellos grant, Alta Mesa, skd dk from 1-a. M. P. Evans, J. M. Martinez, La Escantada sur, blk 11, dk. Otto Woods et al, Matilda Martinez 1, Longoria league, 25 mi sw Falfurrias, sd 300 ft.

CALDWELL COUNTY — Bobrose Oil & Ref. Co., Inc., Walker 1-a, S. Seale sur, Dunlap area, snd 1770-75 ft, set 6⅝ inch cas 1760 ft, dr in. Porter & Townes (Smilock Oil Co.), Dunlap 1, S. Seale sur, Dunlap area, crevice 1996 ft, dry, now dr 2125 ft. G. C. Sullivan (Shell) Plimsoll 1, M. W. Dennis sur, sd for rep 4020 ft. C. J. Webster O&G Co., W. W. McCrory 1-A, McNeil sur, Webster pool, ru; C. T. Robertson 1, 1-a, mi sw McCrory well, John Neil sur, dk.

DE WITT COUNTY—J. F. Richardson & Mid-States O&G Co., Taylor 1, A. Albrete sur, set 330 ft sur cas, now sd. The Texas Co., McCrabb 1, near Thomaston, James Quinn sur, snd 4949 ft, ream to test.

DUVAL COUNTY — A. R. Anderson, E. Riley 1, sec 44, Gov't Wells, snd 2282-86 ft, set cas, woc. Aztec O&R Co., Duval Co. Ranch Co. 1, sec 322, sw Sarnosa, re-dr 2000 ft. R. B. Byrd, P. T. Wright 1, sur 101, ru. John F. Camp, Weil 2, sw No. 1, sur 57, dk. Clark & Cowden, Sutherland 1, lcn. Cole Pet. Co., Benavides 75, sur 19, blk 8, Mariano Arispe Grant, Cole, coring 6200 ft; Benavides 76, blk 8, sur 19, Cole, lcn. Frank Gravis, Schallert 3, sur 265, Palangana salt dome, dr 445 ft. Duval Oil Corp., Bishop 12, sec 135, Gov't Wells, ru. Mag. Pet. Co., J. T. Johnson 1, sur 44, Gov't Wells, dk. Harry E. Oliver, Wood-Welder 1, sec. 213, dk. Pet. Finance Corp., C. W. Hahl 1, sec 46, lcn. Plymouth Oil Co., A. Pharr 1, blk 48, San Andres Grant, sp. The Texas Co., Peters 1, sur 162, Kohler area, test sw 2607 ft. E. R. Thomas, Wood-Welder 1, sur

383, 5 mi ne Rosita Townsite, dr 2200 ft. Thomas & Tarver, Duval Co. Ranch Co.1 sec 576, Sarnosa, lcn. R. F. Duggan & J. D. Clair, Sutherland 1, sur 188, dk. Windsor Oil Co., L. L. Cummings 1, sur 44, Gov't Wells, dk.

GOLIAD COUNTY — Humble O&R Co., Fromme 1, G. W. Kersey sur, 3 mi n Goliad, dr 4075 ft. L. Neal et al, J. M. Pettus 1, Pedro Trevino sur, to re-dr 4572 ft.

GONZALES COUNTY — Johnson-Mattocks O&G Co., J. James 1, M. A. Williams sur, td re-dr abt 3000 ft after rebldg dk. A. J. Nassamer, M. Ramzinsky 1, Gonzales Rge 5, blk 12, dr 450 ft.

GUADALUPE COUNTY—John F. Camp, et al, Delaney 1, Jesus Cantu sur, Zobroski area, lcn. Humble O&R Co., Sue E. Denman 6-C, Darst Creek, dr 1960 ft. George E. Smith, Bearing 1, Sal-Mar area, lcn. A. W. Wormser 1, ½ mi nw Salmar prod., dk; Pfallman 1, 450 w prod, L. Ballinger sur, dk.

JIM HOGG COUNTY—Clark & Cowden, E. Vela 1, sec 573, El Peyote Grant, sp. R. L. Huckett et al, F. C. Guerra 1, sec 86, blk 6, dr 1835 ft, last rept. Randado Syndicate, Inc., Fee 1, sur 148, Randado townsite, dr 750 ft.

JIM WELLS COUNTY—Carroll Brown et al, Boering 1, Tract 4-A, Charles Seffield Farms lots, 5 mi s Alice, ru. F. A. Lain, C. Porter 1, tract 25, near Sandria, rebldg dk, td 90 ft. S. J. Sloane, G. W. Wade 1, C. Blanca sur, blk 6, test 700 ft sw 2983 ft.

KERR COUNTY — Eastland Oil Co., Jeff Love 1-B, Love Ranch, sec 1594, set 10 inch cas 1170 ft, now dr 1360 ft.

LIVE OAK COUNTY—Catlett & O'Neill, Miller 1, Wm. Cabbon sur, sd 3212 ft.

McMULLEN COUNTY—Jacob, Buzzini & Pickett, Inc., J. Jacob 4-A, sec 8, W. H. Jacob sur, Jacob pool, 800 ft nw 3-A, set cas 939 ft, woc; J. Jacob 1-B, sec 15, GH&H Ry. sur, 1¼ mi ne and e discovery, snd 1054-57 ft, set cas, woc; J. Jacob 1-C, sec 47, J. Poitevant sur, 2 mi nw field, lcn. Longhorn O&G Co. & American Gas Co., Lark 1, E. W. B. Scrugham sur, Calliham area, near Live Oak line, ru and sd. V. G. Schimmel, Two Rivers Ranch Co. 1, se cor sec 59, lcn.

MEDINA COUNTY—R. Robertson Drlg. Co., J. J. Little 1, BS&S sur No. 2, dr 2000 ft.

NUECES COUNTY—Gulf Coast Oil Co., Perkins & LeGass 1, H. B. Sheppard sur, Saxet area, td 4556 ft, below in wild from 1650 ft, cratered around surface cas, still wild; Perkins & LeGass 2, lcn; Bessie Elder 2, blk 29, H. P. Sheppard sur, snd 2732-40 ft, set 9⅝ inch cas 2731 ft, dr in. V. Hillegeist, McGregor 1, sur 311, Saxet area, snd 4867-75 ft, set 9⅝ inch cas, dr in. McCarthy, Rogers, Nix et al, Esencee 1, blk 12, Sheppard Farm lots sub, Saxet area, lcn. Saxet Oil Co., W. A. Walton 2, Saxet area, lcn. Stanolind O&G Co., King 2, King Farms, King gas area, gasser 3914-25 ft, reinstate to deepen, now coring 4012 ft.

REFUGIO COUNTY—Gulf Prod. Co., J. O'Conner 2, CEPT&M sur, No. 40, move on. Humble O&R Co., M. V. O'Conner 1, J. Keating sur, McFadden area, dr 4985 ft; O'Conner 2, J. Keating sur, dr 5305 ft. Edwin M. Jones, J. Mitchell 1-B, Refugio town lots, hard snd 9088-9114 ft, soft snd 9114-31 ft, set 5 3/16 inch cas, 100 ft screen to bottom, woc. Larcro Gas & Pet. Co., Strauch 5, lot 2, Refugio, td 5560 ft, set cas, woc. United Prod. Co., Fox 4, Hews & Brown sur, Fox area, td 6560 ft, plug back.

SAN PATRICIO COUNTY — Atlantic Oil Prod. Co., Welder 4, Welder area, dr 3680 ft.

STARR COUNTY—Coastal O&G Co., Kelsey Bass 1, blk 52, show gas 704 ft, set cas. H. D. Carpenter, Doyno-Chatfield 1, Por. 80, share 21, to sp. Frank Dawson, F. Madrigal 1, Por. 52, share 15, sp. H. F. Griffith et al, Kelsey Bass 1, sec 11, dr below 1000 ft at last rept. P. F. Hoffman, Goodrich 1, blk 6, tract 5, Por. 80, lcn. R. E. Johnson, Seabury 1 (fee) tract 32, Por. 80, show oil abt 1700 ft, ream to test. King Pin Oil Co., Lewis 1, share 22, Por. 80, dk. R. H. Pursley, Hinjosa 1, center blk 96, Rio Grande City, lcn. Smith et al, Lopez 1, blk 20, share 65, Por. 80, dr 200 ft. Tarver & Nance, Seabury et al 1, tract 21, w ½ Por. 79, dr 1450 ft. H. C. Tarter, Gonzales 1, share 62, blk 1, Por. 71-72, lcn.

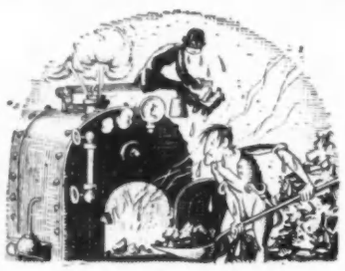
VICTORIA COUNTY — Cullen & West, Keeran 1, Keeran area, fsh for test tool 5320 ft. Houston Oil Co., A. M. McFadden 1-A, IR No. 20 sur, dr 4850 ft. Humble O&R Co., Peter Rydolph 1, McFadden area, Kemper sur, set 967 ft 16 inch cas, dr 1020 ft. The Texas Co., A. H. McFadden 4, J. M. Rine sur, td 2240 ft, sidetrack 1161 ft, set cement, dr ahead. Union Oil Co., Keeran 1, M. de Leon sur, Keeran area, dr 2500 ft. Victoria Oil Co., Keeran 1, M. de Leon sur, coring 5480 ft.

WEBB COUNTY—Blair & Livingston, J. M. Garcia 1, sur 11, ru. Frank Clark, Puig Bros. 1, La Albercas Grant, Aviator pool, sp. French Oil Corp., R. Benavides 1-H, sur 659, West Cole, set cas 2495 ft, dr in. Tompkins & Edwards, Ortiz 1, sec 1808, CC&SF sur, dr 1250 ft.

WILSON COUNTY — Sun Oil Co. et al, Tudyk 1, John Turner sur, unit block, top chalk 2538 ft, dr 2580 ft.

ZAPATA COUNTY — Ballard & Mercer, Flores 1, blk 27, Por. 37, dr 2590 ft. H. H. Coffield et al, S. Bustamante 2, Fansler sur 34, coring 1410 ft; Bustamante 3, lcn. Joe Cullinan, Gutierrez 1, Charco de la India Grant, testing 1149 ft. Donohoo, Stevens & Brown, A. Garcia 1, Share 2, blk 7, Redondo Grant, dr 900 ft. Hunt & Polk, Ramirez 1, Share 2, Villa Grant, dr below 900 ft. L. G. Smith, M. G. Martinez 1, blk 18, share B, W. R. Duke sur, sp. The Texas Co., Measles 9, Cerrito Blanco Grant, Jennings, dr 500 ft. Windsor Oil Co., Martinez 1, blk 14, Charco Redondo Grant, dr 650 ft. Newton et al, R. Garza 1, sur 14, Martinez, sp.

The Fable of
The Rival Towboats



THE steamers Belle and Susie were rival tow boats. In competing for a cargo contract, the Susie won . . . beat her rival's running time on six successive trips. ¶ One day the Susie was delayed. Late arrival meant a heavy penalty . . . the time had to be made up. ¶ To crowd on more steam, her skipper loaded down the safety valve with extra weights. Before long her boilers burst. The emergency had been too great . . . the reserve too small. ¶ He got the contract but he lost his boat.

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GULF COASTAL FIELDS

Two Wells at Conroe Will Determine Trend of Drilling During Next Two Weeks. Two Wells at Rabb Ridge.

WM. V. GROSS, *Staff Representative, Houston, Texas*

Attention at Conroe Focused on Two Wells

Houston.—Two wells in the Conroe area of Montgomery County will be watched very closely for the next fortnight as a favorable showing or correlations in either might result in considerable immediate drilling.

One of these wells, Rowe and Flowers' Varner Realty Company 1, about three miles west of northwest of Strake Oil Corporation's South Texas Development Company 1, discovery well, was drilling below 3817 feet July 1, a little more than 1000 feet above the depth at which the district's first producer was completed. Barring mechanical accidents, the well could be completed in two weeks without undue haste.

If Varner Realty Company 1 turns out to be a dry hole, the attractiveness of the play south, southeast, east and northeast of the discovery well will be enhanced. If, on the other hand, the well makes a commercial producer, a somewhat neglected portion of the area, that lying west of the discovery well, will be subjected to exploration tests. Rowe and Flowers' Varner Realty Company 1 is 300 feet from the north line and 150 feet from the east line of a 33-acre tract near the northeast corner of the westermost Ransom House survey.

The other well at Conroe which will bear watching for the next two weeks is Gieseke and Craft's South Texas Development Company 1, several miles southeast of the original producer and in the T. & N. O. Railway survey No. 9. July 1 this project was well below 3800 feet, or about as near completion, relative to the producing horizon depth established thus far in the field, as the Rowe and Flowers test. Both tests ought to reach the sand within a week, if they are to find it at all.

Gieseke and Craft's well, if completed as a producer, probably will precipitate more drilling than the Rowe and Flowers test because acreage held between the former and the discovery well is in smaller tracts.

Among the other wells in the field, the status of the more important on July 1 was as follows: Heep Oil Corporation's George Hamman 1, drilling at 2400 feet; Heep's R. L. Cartwright 1, derrick erected over old hole to deepen below 5078 feet; Heep's C. Brant 1, drilling below 1300 feet; Heep's R. L. Cartwright 2, drilling in gumbo at 870 feet; Strake Oil Corporation's South Texas Development Company 3, drilling in clay at 760 feet; Alpha Petroleum Corporation's South Texas Development Company 1, set 12½-inch casing at 829 feet and waiting for cement to set; Rowe and Flowers' Mrs. M. H. Alexander 1, drilling in shale at 2755 feet; C. C. Steinberger and Heep's Steinberger 1, drilling in shale at 799 feet and expect to set surface casing early in July; Gulf Coast Drilling and Production Company's South Texas Development Company 1, ready to spud.

The eight-inch screw-joint pipe line which Humble Oil & Refining Company is laying from Conroe field to Satsuma, in Harris County, will be completed about July 15. In the meantime, it is not likely any appreciable amount of production will be lost due to lack of lease storage.

The choice grapevine rumble from Conroe for the week is that Humble Oil & Refining Company might begin to seriously covet holdings of Houston Oil Company and Heep Oil Corporation at Conroe should any other major show serious symptoms of buying out those two early birds. It's just a rumble though—so far.

Location for Cheek Test South of Abandoned One

Houston.—Although a few days of shooting will have to be done before geophysical work for the second wildcat location at Cheek dome in Jefferson County is completed, it is practically assured from work done thus far by Dr. E. G. Rosaire that the second well will be located about a half mile south of Jack Schultz's O. M. Todd 1, recently abandoned at 6906 feet.

This will throw the new location between the Todd well and Humble Oil & Refining Company's Nelson 1, another deep test in the Cheek dome area which was abandoned last year after drilling to 6537 feet. Nelson 1 was located about two miles southeast of Schultz's Todd 1, which encountered sufficient showings and domal indication to justify, in the eyes of the operators, another test.

Cheek dome, a geophysical prospect, is located about nine miles southwest of Spindle Top.

Two Rabb Ridge Wells Yield 3350 Barrels Flush

Houston.—Humble Oil & Refining Company and Gulf Production Company, joint operators in Rabb Ridge field, Fort Bend County, boosted the field's daily average production to better than 13,000 barrels this week by completion of two wells with a combined initial of 3350 barrels.

A. P. George 4 was completed slightly below 5300 feet for 2100 barrels of pipe line oil which flowed through a three-eighths-inch choke carrying a pressure of 570 pounds. George B-1 was brought in at 5310 feet flowing 1250 barrels through the same size choke, but with a pressure of 450 pounds.

Louisiana Gulf Coast Field Developments

Completions

Company, Well and Location	Initial Production Bbls.	Depth
EAST HACKBERRY—		
Calcasieu Oil Co., Watkins 29, (wo)	250	2997
LAKE WASHINGTON DOME—		
Freeport Sulphur Co., Cockrell-Moran 1	*	1548
SULPHUR—		
Union Sulphur Co., Fee 771	3500	5161

Wildcat Drilling Report

(Wells shut down not included)

CALCASIEU PARISH—Magnolia Pet. Co., B. T. Wait 2, Iowa dist, prep to spd. Union Sulphur Co., Moss 3, Lockport, td 4835 ft, prep to pull scr and dpn; Fee 769, Sulphur, pb to 4604, old td 6051 ft.

CAMERON PARISH—Brownie-Babette Oil Co., R. A. Moore 1, Black Bayou, dr sh 6321 ft. Jim Oil Co., Erwin 7, E. Hackberry, dr 3050 ft. Moon Oil Co., Breaux 1, E. Hackberry, dr sh and li 3644 ft. Magnolia Pet. Co., Cameron Meadows 2, wo, wtg on orders, 5273 ft. Lackawana Oil Co., Porter Ellender 1, Old Hackberry, lcn 320 ft s and 150 ft e of ne nw cor se se sec 21-12s-10w. Pop Oil Co., Ellender 1, Old Hackberry, lcn. Sul-Tex. Oil Co., Dorion 1, E. Hackberry, dr sh 3711 ft. Union Sulphur Co., Pure Oil 1, E. Hackberry, dr sn and clay, 8303 ft. The Texas Co., State E. Hackberry, dr sn 900 ft. Yount Lee Oil Co., School Land 11, Old Hackberry, dr 3330 ft.

IBERIA PARISH—Jefferson Lake Oil Co., Lake Peigneur 37, dr cap rk 828 ft; Lake Peigneur 36, dr cap rk 610 ft, both in Jefferson Lake area.

IBERVILLE PARISH—Standard Oil Co. of La., Wilbert-Myrtle Grove 2, Bayou Choctaw, cor in cap rk 4140 ft.

LA FOURCHE PARISH—Pop Oil Co., Esponge & Vizier 1, Leesville, sn and shale shwg. oil 3927-30 ft, had another show in sn at 3907-25 ft. The Texas Co., L.L.E. Leesville 5, Leesville, dr sndy shale 2711 ft. States Prod. Co., Swamp-W. H. Starck G, Chacahoula dome, lcn 40 ft s and 30 ft e of nec sec 71, but in sec 72.

TERREBONNE PARISH—The Texas Co., Lake Pelto 7, Lake Pelto, driving piling; State Lake Barre 4, Lake Barre, drlg. plug, td 3882 ft, topped oil sn at 3793 ft; State Lake Barre

14, dr li rk 2804 ft; State Lake Barre 16, bldg dk.

VERMILION PARISH—Pure Oil Co., Mulvey Irrigation Co. 1, Gueydan, ru.

VERNON PARISH — Minerals Division of Llano Co., Llano Del Rio 1, 2 mi sw Leesville, dr 200 ft.

Texas Gulf Coast Field Developments

Completions

BARBERS HILL—
McAlbert O-I Co., Wilburn 3, (wo) 250 5215
Sun Oil Co., J. Wilburn 14 .....1000 4381
Superior Oil Co., Ilfrey 1, (wo) 768 5308
Texas Gulf Producing Co., Barber A-7 . ..... 150 5830
HUMBLE—
Cullen & West, Burt 4 ..... * 5281
Sun Oil Co., River 56 ..... 400 1372
PILANT LAKE (Fort Bend County)—
Jas. T. O'Hara, T. A. Brown 1 .... * 4572

Wildcat Drilling Report

(Wells shut down not included)

AUSTIN COUNTY — Humble Oil & Ref. Co., McCasland 2, Raccoon Bend, dr 3680 ft. Great Southern Drlg. Co., F. Schovajsa 1, 3 mi s Bleiblerville, dr shale 1800 ft. Yegua Oil Corp., Pomacal 18, Brenham, sd 1095 ft.

BRAZORIA COUNTY—Quintette Oil Co., Levitt 2, Jno. Peske sur, std at 2165 ft. W. D. Southerland et al, C. W. Chapman 1, Lockridge, dr 2870 ft. The Texas Co., Belcher 3, Manvel, ru. Hogg et al, Hogg 1, West Columbia, dr 3975 ft.

BURLESON COUNTY—Ball Knob Oil Co., Polansky 1, 6 mi w Lyons, dr shale 541 ft. E. M. Bracy et al, Bracey 1, Somerville, dr 672 ft. Sanson Oil & Gas Co., Deckworth & Gilley 1, sd at 2648 ft. M. O. T. Oil Co., sd at 2710 ft after coring.

CHAMBERS COUNTY — (Barbers Hill) Mills Bennett, Barber A-4, dr sh and li, 3487 ft; Kirby 3, dr sh and li 3125 ft; J. B. Means 4, in sn shwg oil at 3443 ft. Rio Bravo Oil Co., A. N. Fisher 3, losing returns in rk at 4291 ft. Sinclair Prairie Oil Co., Wilburn 8, dr sn and sh at 4953 ft, set 7-inch at 4873 ft. Sun Oil Co., Higgins 3, dr rk 1433 ft. The Texas Co., Wilburn 6, dr sh 4360 ft. Texas Gulf Producing Co., Kirby H-10, dr rk 923 ft; Cornelia Barber 2, dr salt 1485 ft.

FORT BEND COUNTY — Naylor & De Costa, Naylor 1, Thompson Station, dr 2950 ft. Humble Oil & Ref. Co. and Gulf Prod. Co., Lockwood & Sharp 4-A, Rabb Ridge, dr 2082 ft; Lockwood & Sharp 5-A, dr hd sndy li 4577 ft; F. I. Booth Est. 2, dr 2000 ft; J. H. P. Davis 2, Rabb Ridge, woc at 1293 ft; George B-1, Rabb Ridge, flwg 55 bbls per hour; George 4, dr sh 5170 ft; A. E. Myers 3, Rabb Ridge, dr 4100 ft. The Texas Co., Wolters 1, Rabb Ridge, dr 4555 ft, no show. Stone & Wyman, Beard 1, dr brown sn 1630 ft. Gulf Prod. Co., Moore 33, Orchard, lcn.

GALVESTON COUNTY—Yount Lee Oil Co., Cade 28, High Island, woc at 5572 ft; Cade 28, dr hd sn and li at 4720 ft; Broussard & Orme 2, High Island, dr sn and li 2781 ft; Nellie League 2, High Island, dr 3936 ft in w sn; Smith 11, High Island, dr 4000 ft.

GRIMES COUNTY—J. C. Barnett et al, G. W. Dodd 1, dr 1870 ft, w of Iola.

HARDIN COUNTY—Joe E. Proctor et al, J. R. Bevil 1, dr shale, 1866 ft.

HARRIS COUNTY — H. D. Morse et al, Schweinle 1, Hufsmith, ru. Gulf Prod. Co., Taylor 35, Pierce Junction, ru. Rio Bravo Oil Co., Settegast 24-A, Pierce Jct., waiting orders at 4532 ft. S. B. Ward, Mowery 1, Pierce Jct., dr clay 128 ft. J. D. Clay, Bender 1, Humble, bldg pumping jack at 1188 ft. Sun Oil, Bender 26, Humble, dr shale 4530 ft; River 54, Humble, ru. The Texas Co., H. C. House 26, Humble, dr 2751 ft; W. & P. 25, td 1751 ft, r to set 7 inch cas. John Deering, Warren 1, Hockley, ru.

JASPER COUNTY—Hext Drlg. Co., Flournoy 1, 4 mi se Jasper, dr sndy sh 4450 ft.

JEFFERSON COUNTY — Elam & Denny, Broussard 2, 2 mi w Sabine, dr hd sn 1572 ft.

LIBERTY COUNTY—Aber Oil Co., Fee 1, Hull, lcn in 10-ac tr, J. Devore League. D. & L. Prod. Co., Pivoto & Hankhamer 1, Hull, washing over tubg, td 4553 ft. Eclipse Oil Co., Barrow 2, Hull, dr shale 4960 ft; Knox-Nelson-Layton 1, Hull, lcn in Nelson ½-ac tr in J. Devore Lg. Heeley & Southerland, Finley 1, Hull, dr sn 1026 ft. Houston Prod. Co., Baldwin 1, Hull, lcn in 5 ac ls in J. Devore Lg. Republic Prod. Co., Dolbear 55A, Hull, core in hd sn 1880 ft; Dolbear 146, ru.

MATAGORDA COUNTY — P. S. Griffith, Baer 3, Big Hill, dr sh 2490 ft. United N. & S. Dev. Co., Stoddard 1, Buckeye dist., trying to complete at 7831 ft. Julia O-I Co., Gray 2, Markham, setting scr at 3623 ft. Southern Drillers & Prod. Co., Hudson 1, Markham, dr 3276 ft. The Texas Co., TTPL Co. Fee 1, Markham, dr shale 3520 ft. Sheppards Mott Dev. Co., Hawkins 1, Sheppards Mott, woc at 500 ft.

MONTGOMERY COUNTY — Heep Oil Corp., R. L. Cartwright 1, Conroe, bldg dk to work over; Geo. Hamman 1, Conroe, drlg plg at 860 ft; C. Brent 1, woc at 850 ft; R. L. Cartwright 2, ru. G. W. Strake, So. Tex. Dev. Co. 3, Conroe, dr clay 760 ft. Gohlson & Rycade, Alliance Tr. Co. 1, 5 mi se Montgomery, cor in sndy sh 3172 ft. Alpha Pet. Corp., So. Tex. Dev. Co. 1, Conroe, spd. Rowe & Flowers, Varner Realty Co. 1, Conroe, dr 3300 ft; Mrs. M. H. Alexander 1, Conroe, dr shale 2255 ft. C. C. Steinberger & Heep Oil Corp., Steinberger 1, ru. Edwin Falvey et al, McComb et al 1, dk. Gieseke & Craft, So. Tex. Dev. Co. 1, Conroe, dr 3400 ft. Gulf Coast Drilling & Prod. Co., So. Tex. Dev. Co. 1, dk fndtn.

ORANGE COUNTY—Ala-Tex Oil Co., Reed 1, 2½ mi se Orange, dr in soft sn 4787 ft, may make dst. Orange Pet. Co., Chesson 13, Orange, dr hd shale, 2880 ft. Sun Oil Co., Belile 1, dr sndy sh 4295 ft. The Texas Co., Starck 3, Port Neches, very slight shwg in sn li and sh at 3237-39 ft.

POLK COUNTY—Collins & Plummer Prod. Co., Collins 2, Aug. Viesca Sur, dr 3268 ft.

SAN JACINTO COUNTY — Seven Wells Corp., Foster Lbr. Co. 1, 8 mi s Cold Springs, dr sh 5028 ft.

WALKER COUNTY—Geo. F. Kerr, Smithers Bros. 1, S. Manning Sur, td 2240 ft, washing to bottom. W. E. Brown, Hoshall 1, lcn 150 ft each way out of se cor E. Miller sur.

Sugarland Considered Model On Field Pressure Control

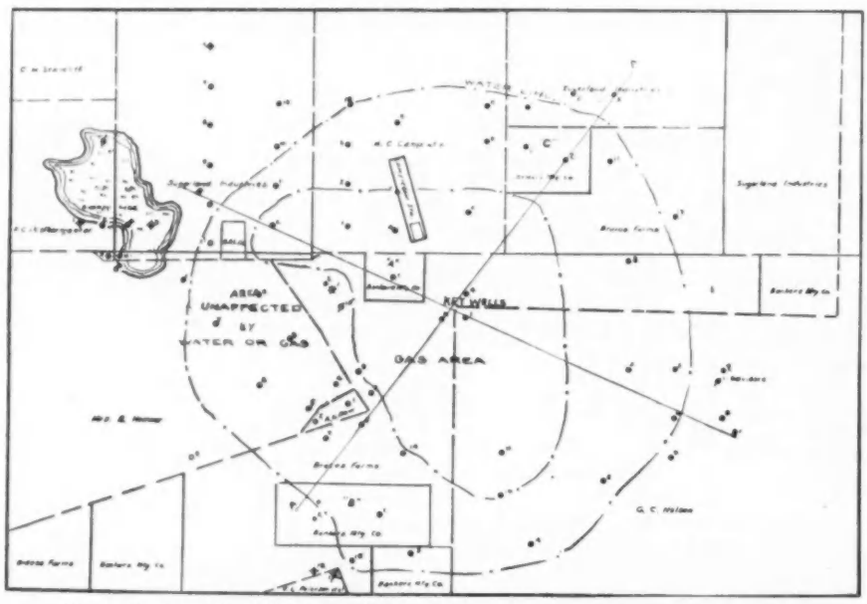
BECAUSE of low lifting costs obtaining, Sugarland oil field, Fort Bend County, has been pointed to as a model of repressuring, or "pressure control" in the Gulf Coast. On the 1256 proven acres of the field there are 40 wells, eight of which are making water. All but one are flowed through small chokes. Of the 24 shut-in wells, three are key wells through which gas is introduced back into the formation.

Sixty-six wells have been completed at Sugarland, or one well to 19 acres, whereas the average for the Gulf Coast is one well to 1.3 acres.

Most domes in the Gulf Coast produce from flank sands, but little effort has been made to determine the value of Sugarland from this sand point. However, it is estimated the Oligocene super-cap sands there will produce 65,000,000 barrels of oil. The production comes from a sand and sandy shale series ranging up to 200 feet in thickness and having an average porosity of 25 per cent. This series occurs from 300 to 375 feet below the top of the Oligocene and below the Heterostegina zone and in the Marginulina zone, lying almost directly upon the cap.

The productive closure of Sugarland is 500 feet. Water has encroached up to the 3200-foot contour line on the northwest, north, northeast and east sector, flooding eight wells, and up to the same contour on the south and southwest sector, flooding one well.

It is interesting to know that of the 24 shut-in wells at Sugarland, eight were shut in because the gas ratio was too high.



Map of Humble Oil & Refining Company's operations at Sugarland

NEW MEXICO . . . ROCKY MOUNTAIN

Colorado Commission Makes Inquiry on Interstate Gas Rate; Two More Wells Start on Greasewood Flats.

Staff Correspondent, Casper, Wyoming

Greasewood Flats Drilling Activity on Increase

Greeley, Colo.—More activity in the Greasewood Flats district and northeastern Colorado in general was manifest last week when Ohio Oil Company's well got under way, two tests made good drilling progress, and new locations for immediate operation were announced. Ohio Oil Company's well, northeast of the producers in Greasewood, cemented 15½-inch casing at 291 feet, and is now drilling ahead. Manning & Terry's Niles 1, a half mile east of Continental Oil Company's Briggs 1 (best producer in the field) cemented casing at 225 feet, and is drilling ahead. In what is known as the New Raymer district, Tulsa-Fort Morgan Petroleum Corporation is drilling below 1850 feet, carrying 12½-inch casing. This test is being drilled with cable tools, while the other wells are rotaries. A joint test is to be drilled by the Danciger interests and Ramsey Brothers five miles south of the Tulsa-Fort Morgan well. Exact location is not spotted.

Midwest Units Reorganizing As Economy Measure

Denver, Colo.—It is being quite authoritatively stated that a plan is now under way for the reorganization of several of the smaller units of Midwest Refining Company, subsidiary of Standard Oil Company (Indiana). It is said that the companies affected include the Salt Creek Consolidated, the Salt Creek Producers, Midwest Oil Company, and the Saltmount Oil Corporation. The reorganization is a move to bring about more economical operation of the units, it is said, and officials of the companies may be changed or transferred.

Texas-Colorado Gas Line On Colorado's Carpet

Denver, Colo.—The colorado Public Utilities Commission has issued an order giving the Colorado Interstate Gas Company 20 days in which to show cause why the company should not obtain a certificate of convenience and necessity to do business in Colorado, or cease to operate in the state. The action is the result of a war on the gas rates. The company owns the 350-mile gas pipe line from the Texas Panhandle to Denver; it supplies Denver, Colorado Springs, Pueblo, and other communities, charging 40 cents maximum. The commission alleges, however, that in supplying local industries with gas and other pipe line companies, (Colorado Fuel & Iron Company and Colorado-Wyoming Gas Company) it does a local business and rates are therefore subject to the commission's jurisdiction. Industries and pipe lines are said to have a rate of 17 cents.

Magnolia Plans Another Test on Piceance Structure

Denver, Colo.—Magnolia Petroleum Company is making preparations to drill another well on the recently proved Piceance Creek structure, according to reports here. The company completed Maddock 1 last week on NW SE Section 9-2s-96, at 2958 feet. The gas production gauged 8,250,000 cubic feet with rock pressure of 900 pounds. Gas production developed here, in Rio Blanco County, northwestern Colorado, would be available to the long gas line now running from southwestern Wyoming and northwestern Colarado fields into Utah and Idaho, and would provide an augmented supply to that coming now from Hiwatha dome and Baxter Basin fields.

New Mexico and Rocky Mountain Field Developments

WYOMING

Completions

Company, Well and Location	Initial Production Bbls.	Depth
CARBON COUNTY (Bunker Hill)—		
Prairie Oil & Gas Co., 1, 29-37-89..	*	2100

New Operations

FREMONT COUNTY (Kirk Structure)—Premier Oil Co., 7-28n-92w, location.

Wildcat Drilling Report

(Wells shut down not included)

CARBON COUNTY—Midwest Refining Co., U. P. 27, 27-11-81, coring, showing some gas, 4210 ft.

CONVERSE COUNTY—John Ackard, se 24-33-72, temporarily shut down to refinance, 2020 ft. Converse Oil & Gas Co., sw sw 27-33n-72w, running casing 2500 ft.

FREMONT COUNTY—Ward O&G Co., 28-34-90, dr 2700 ft. Yellowstone Oil Co., Gabus 1, sw 14-38n-94w, dr below 1875 ft. Premier Oil Co., 7-28n-92w, location.

LINCOLN COUNTY—H. C. Harris et al, se 14-21n-117w, dr below 1550 ft.

NATRONA COUNTY—Mutual Oil Synd., Midway 2, sw se 14-36-79, dd to Muddy 5300 ft. Summit Oil Co., Trevett 1, 21-33-80, resuming 1387 ft.

SWEETWATER COUNTY—Vermillion Oil Co., sw se 16-12n-99w, preparing to resume.

UINTA COUNTY—Transwestern Pete Co., Ltd., (Doheny), 6-14n-118, cemented off lost bit, dd 4000 ft. Park City O&G Co., ne nw 16-15n-113w, oil showing reported, cemented to test 2968 ft.

WASHAKIE COUNTY—Bales Oil Trust, Brome 1, ne nw 31-48n-90w, dr out cement 1105 ft.

WESTON COUNTY—Julius Peters et al, Weitzell 1, sw nw 30-46-64, dr bel 4200 ft. Gose Synd., ne 28-37n-63w, dr resumed 5050 ft. LeFaivre Oil Synd., nw se 29-45n-68w, to resume soon, td 1800 ft.

MONTANA

Completions

Company, Well and Location	Initial Production Bbls.	Depth
TOOLE COUNTY (Kevin-Sunburst)—		
Imperial Natural Gas Co., 21-35-1w	6	1570
Pfabe-Engelking-Seabrook 1, se se 19-35-2w	10	....

Wildcat Drilling Report

(Wells shut down not included)

BROADWATER COUNTY—Capitol O&G Co., nw 7-8n-1e, dr bel 2200 ft.

CARBON COUNTY—Corbett Royalty Co., sw se 1-16s-23e, dr 1160 ft. Jack Creek O&G Co., se 15-7s-23e, rig up. Midland Oil Co., nw 24-6s-23e, rig up.

CARTER COUNTY—E. T. Moorehead, sw 34-4s-57w, wait for 12½ inch at 350 ft.

CASCADE COUNTY—Buscher & Cassady,

— — — — — — — CUT OUT AND MAIL — — — — — — —

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Johnson 1, se 19-22-3e, wait for Merz test, td 1387 ft. Charles Merz et al, Sheffels 1, nw 4-21-4e, dr 1600 ft.

FALLON COUNTY — H. W. MacDonald's 1, sw 28-8n-60e, dr bel 1755 ft.

FERGUS COUNTY—Melton Corporation's 1, sw 24-21n-17e, dr and carry 8¼ inch 3150 ft. Landheim-Romunstad 2, ne 3-17n-20e, set 6⅝ inch at 2116 ft, td 2600 ft.

GALLATIN COUNTY — Montana Gas & Pete Corp., Adams 1, 35-1n-2e, refinancing, td 1650 ft.

GLACIER COUNTY—Finn et al, McLellan 1, nw se 12-34-6w, rig up. Blackfeet Petroleum ne 28-36-12w, rig up to resume. Jeffries et al, se ne 17-31n-12w, to move in standard tools to dd, td 2980 ft. Tarrant et al, Hagland 1, nw se 13-34-6w, ready to dr in 2835 ft. Browning Development Co., Reickhoff 1, ne 3-34-6w, rig up.

GOLDEN VALLEY COUNTY—Golden Valley Oil Co., 2-6n-22, dr below 3335 ft.

LIBERTY COUNTY—Whitlash Petroleum Co., Hicks 1, nw ne 26-37-4e, oil showing, dd 1656 ft. Oiens et al, Hicks 1, se ne 26-37-4e, dr 200 ft. R. C. White et al, Hicks 1, ne ne 27-37-4e, dr 600 ft. Teter & Strawn, Shafer 1, sw sw 24-37-4e, building rig. Postlewaite et al, sw ne 26-37-4e, dr 200 ft. A. E. Crumley, Strode 1, nw ne 35-37-4e, dr 1000 ft. Northland O&G Corp., Yurman 1, sw 32-33-5e, prep to resume 2815 ft. Peoples O&G Co., nw 17-36-6e, dr and carry 10 inch bel 2030 ft.

MUSSELSHELL COUNTY — Minnesota-Flatwillow Pete Co.'s 1, sw 7-11-31e, dr 2565 ft.

PHILLIPS COUNTY—St. Cloud O&G Co., sw ne 20-34n-24e, dr 500 ft.

PONDERA COUNTY—Bell-Adams, Venetz 1, ne 31-27-4w, dr water well, oil test standing 920 ft.

SWEETGRASS COUNTY—Shoshone Consolidated Oil Co., nw nw 23-2n-15e, ur 5785 ft.

TETON COUNTY—California Co.'s Sullivan 1, nw 34-28-7, dr bel 3125 ft. Earl Oil Co., ne se 22-22n-8w, drilling resumed 3860 ft.

TOOLE COUNTY — Oregon Syndicate, se 20-36-2e, trying to pull casing to plug back 2580 ft. Texas Co.'s International Land 1, se sw 6-36-4w, dr 2200 ft.

VALLEY COUNTY—Opheim O&G Co., ne 28-37n-38e, move in.

YELLOWSTONE COUNTY—Spokane-Laurel Oil Co., sw se 30-2s-24e, more gas showing, will test, 610 ft. Peter Antonioli, ne ne 2-2n-25e, waiting for casing, 2370 ft.

COLORADO
Completions

Company, Well and Location	Initial Production Bbls.	Depth
WELD COUNTY (Greasewood)—		
Reiter-Foster, Johnson-Juhl 1, se 14-6n-61w	*	6263

Wildcat Drilling Report
(Wells shut down not included)

ADAMS COUNTY—Hills Dome Lease Dev. Co., se 27-3s-54w, cemented, 4025 ft.

ARAPAHOE COUNTY—McDeb Drlg. Co., Fitzsimmons 1, ne 7-4s-68w, dr sandy shale, 6065 ft (cor).

ARCHULETA COUNTY — Oil City Pete Co., Fitzhugh 1, sw 34-33n-13, sd for pipe, gas showing, 717 ft.

EL PASO COUNTY—Gulf States Oil Corporation, Carson 2, ne 10-16s-66w, dr plug, 2000 ft.

GRAND COUNTY—Oil & Mineral Lands, Inc., McElroy 1, se sw 14-2n-81, resum at 618 ft.

LA PLATA COUNTY—McGarr Pete Co.'s Pinon Mesa 1, ne 34-33n-12, rig up. Phipps et al, sw 9-33-13, td 520 ft.

LARIMER COUNTY—Mayer et al, Reed 1, nw 28-4-60, repairing rig, td 3800 ft.

LINCOLN COUNTY—Eastern Colorado Oil Corp., State 1, nw 36-14s-57w, sidetracking, td 3449 ft.

MONTROSE COUNTY—Uncompahgre O. & G. Co., Vandemark 2, 27-50n-10, td 800 ft.

MONTEZUMA COUNTY—Oliver, Downey, Smith et al, nw se 31-36-17w, spudding.

PARK COUNTY—South Park O&G Co., Milligan 1, se 13-8s-76w, cem cave and sd 2912 ft.

RIO BLANCO COUNTY—California Co., Raven 1, se 20-2n-102, dr in red beds, 5466 ft.

WELD COUNTY — Tulsa-Ft. Morgan Oil Co.'s Anthes 1, ne ne 24-8n-59w, dr 1850 ft. Weld Royalties Co., se 29-9n-61, sd 98 ft. Ohio Oil Co., Butters 1, 7-6n-60w, dr 2000 ft. Manning & Terry, Niles 1, ne ne 13-6n-61w, dr 2500 ft.

NEW MEXICO
Completions

LEA COUNTY—		
Texas Pacific Coal & Oil Co., se 24-18-37	3758	4227
Amerada Pete Co., Hardin 1, sw se 18-18s-38e	10,174	4158

New Operations

LEA COUNTY—Tidal Oil Co., sw ne 8-21s-36e. Empire Gas & Fuel Co., 19-18s-38e.

Wildcat Drilling Report
(Wells shut down not included)

BERNALILLO COUNTY—Norrins Realty, Pajarito Grant 1, 22-9n-1e, fsh cas 1295 ft.

CHAVES COUNTY — Warman Oil Trust, Evans 1, 15-14s-25e, dr 1335 ft. R. D. Compton, sw se 20-10s-24, spd and sd.

DE BACA COUNTY—Montgomery et al, Wood 1, sw 6-4n-20e, fsh tools 4662 ft. Landowners Oil Co., State 1, ne 16-1s-27e, dr 4860 ft.

DONA ANA COUNTY—Middle States O&G Co., Boretzi 1, 14-26-5e, rigged.

GUADALUPE COUNTY—N. M. Prod. & Ref. Co., McMillan 1, 24-5n-16e, wait for orders, 4507 ft.

HARDING COUNTY—Carbon Dioxide Corporation, Tinsley 1, 3-21n-31, location.

LEA COUNTY—Baker Oil Co., Inc., sw nw 15-13s-33e, contract let.

LUNA COUNTY—Angelus O&M Co., State 3, se 30-21-10, try to reset casing, 6171 ft.

RIO ARRIBA COUNTY—Governador Oil Co.'s 1, se 15-29n-7w, fsh parted pipe, 2070 ft.

ROOSEVELT COUNTY—Peterson Oil Co., Good 1, se ne 32-5s-30e, rig up.

SAN MIGUEL COUNTY—Cabra Springs O&G Co., Thompson 1, ne 21-12-22, changing to steam, td 2540 ft.

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LOUISIANA FIELDS

Five Zwolle Locations in "Hot Spot" and Six in Other Part of Field. Gas Well Figures Released.

Staff Correspondent, Shreveport, La.

Zwolle Operations Again Hiked Above 100 Active

Shreveport, La.—Eleven new locations were announced in the Zwolle field during the week ending June 29, as compared to seven the preceding seven-day period. The new locations hiked the number of operations in that territory above the 100 mark again. There were 99 operations there on June 25, not counting the new locations, divided as follows: locations, 29; derricks, 20; rigs, four; waiting standard rig, six; drilling, 21; setting six-inch casing, five; and shut down, 14.

Five of the last week's locations were in the "hot spot" of production southwest of the Zwolle townsite, and six were in the southeast part of the field.

On June 29, Coats Petroleum Company's S. S. Martinez 2, NW NE SE Section 3-7-13, in the southwest "hot spot" came in flowing at an estimated rate of 500 barrels daily through one half-inch choke, with 125 pounds pressure, from a break in the chalk at 2255-58 feet. Six-inch casing was cemented at top of the marl at 2112 feet. It was the sixth completion for that section and the sixth producer. This is the most consistent part of the Zwolle field in successful completions.

Broderick & Calvert's Costullo 1, SE NW Section 2-7-14, 2½ miles north of the West Zwolle (Blue Lake) producing field, was abandoned as a dry hole in Zwolle chalk at 2415 feet; elevation was 174 feet. The well checked over 100 feet higher on the contact of the marl, logged at 1956 feet, than did the Blue Lake wells.

Engineers Claim No Water Line in Zwolle Area

Shreveport, La.—Coats Petroleum Company is installing air-lift on Martinez B-1, Section 3-7-13, the first unit of this kind to be installed in the main part of the "hot spot" southwest of the Zwolle townsite part of that field. This well on its last gauge was making 340 barrels of oil, representing approximately 25 per cent of the fluid yield daily.

While salt water has appeared in several flowing wells in this part of the field as well as in other parts of it, there is no such thing in Zwolle, engineers say, as a salt water line. They point out in stating this that the sub-sea top of the marl in some wells is below the base of the chalk in other wells in the field, and it is a well-known fact that the Blossom immediately beneath the chalk in Zwolle is full of salt water. However, the base of the chalk is impervious to migration of salt water, except in breaks in the chalk. All of Zwolle's oil production is obtained from breaks in the chalk.

State Gauge Shows Monroe-Richland Have 1099 Wells

Shreveport, La.—The results of the closed pressure tests and calculation of new capacities of the gas wells in the Monroe and Richland fields of North Louisiana were announced during the past week by the minerals division of the State Conservation Commission. The semi-annual regauge of these fields was delayed this year due to high water during the spring when the tests are usually made.

The tests revealed a total of 841 gas producers in the Monroe field divided among the following companies: Amalgamated Company, 10; Arkansas-Louisiana Pipe Line Company, 15; Brummitt & Julian, 1; J. B. Bond, 3; Carbons Consolidated, 28; Carson Carbon Company, 3; Century Carbon Company, 23; United Gas Public Service Corporation, 264; West Virginia Oil and Gas Company, 8; J. P. White, 1; United Carbon Company, 82; Trousdale & Wright, 2; Texas-Louisiana Production & Carbon Company, 3; Stubbs, Trustee, 1; Stovall Drilling Company, 3; Southern Carbon Company, 139; Sho-Van Gas Company, 5; Sabine Production Company, 1; John J. Potts, Trustee, 4; Pioneer Gas Company, 8; Pelican Natural Gas Company, 1; Peerless Carbon Company, 7; Ouachita Natural Gas Company, 1; Oil Field Exploration Company, 4; J. A. Noe, 1; Nemours Corporation, 13; National Gas Company, 6; Mich-Louzanna Oil & Gas Company, 1; C. E. McKenzie, 1; Maury Drilling Company, 7; Magnolia Petroleum Company, 1; Lyons Gas Company, 3; Louisiana Gas Lands, 1; La-Del Oil Properties, 54; G. E. Jorda, Trustee, 2; Interstate Natural Gas Company, 26; Inabnet, Mack & Pipes, 2; Imperial Oil & Gas Company, 14; S. D. Hunter, 10; J. M. Huber Company of Louisiana, 22; A. D. Hosterman, 4; J. S. Herkness, 10; Hatcher & Evans, 8; Hope Producing Company, 4; Harrell & Jones, 1; E. S.

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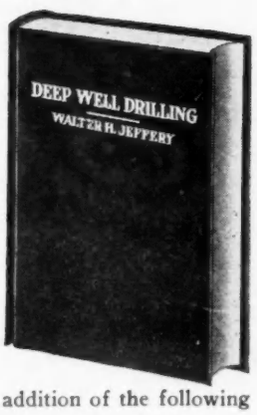

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Hall, 6; Grecian Bend Oil & Gas Company, 4; Flournoy, Morton & McGee, 4; Feazel & Inabnet, 1; Feazel & Smith, 1; W. C. Feazel, Trustee, 4; C. W. Easterling, 1; B. J. Dickinson, 2; Cronin & McKenzie, 2; Chester Carbon Company, 2.

There are 258 gas producers in the Richland gas field divided among the following companies: United Gas Public Service Company, 149; Arkansas Natural Gas Corporation, 11; Alto Gas Company, 1; Century Carbon Company, 2; Feazel, Bendel & Brown, 1; Franklin Oil & Gas Company, 1; Hope Producing Company, 13; Pelican Natural Gas Company, 4; Richland Operating Company, 5; Southern Carbon Company, 46; and United Carbon Company, 25.

Shreveport, La.—Leue Oil Company, which several years ago drilled Kinder 1, Section 2-21-7, a wildcat in Claiborne Parish, to 3500 feet and abandoned it as a dry hole, has gone back in to deepen. The test is on a block of several thousand acres, rentals on which have been paid during the intervening months since the test was first abandoned.

North Louisiana Field Developments

Completions

Company, Well and Location	Initial Production Bbls.	Depth
DE SOTO PARISH (Naborton)—		
Rudeseal et al, Nabors 3, 6-12-11	dry	2310
SABINE PARISH (Zwolle)—		
Broderick & Calvert, Costullo 1, 2-7-14	dry	2415
Ben Merritt, Tr., Nulton 1, 3-7-13	750	2390
C. T. Ruffian, Tilley 1, 8-7-11	75	2356
C. H. Tuttle, Byrd 2, 7-7-10	700	2459

New Operations

ASCENSION PARISH—Union Sulphur Co., Sulphur, United Lands 21, 15-10s-4e, 3088 ft e and 609 ft n sw cor sec. Rio Bravo Oil Co., Houston, Texas, Community Lease 1, 31-10s-2e, 200 ft n and 1500 ft e sw cor sec.

BEAUREGARD PARISH—DeRidder Dev. Corp., DeRidder, McMahon 1, 33-2s-9w, 224.9 ft s and 514.8 ft w ne cor nw¼ sec.

CAMERON PARISH — Calcasieu Oil Co., Sulphur, Watkins 34, 13-12s-10w, 4089 ft s and 3058 ft e nw cor sec. Lackawanna Oil Co., Lake Charles, Parter Ellender 1, 21-12s-10w, 320 ft s and 150 ft e nw cor se¼ se¼ sec. Moon Oil Co., Lake Charles, Sanner 6, 28-12-10, 1550 ft n and 675 ft e sw cor sec.

DE SOTO PARISH—J. W. Barton et al, Mansfield, Nabors 1, 6-12-11, 700 ft s and 100 ft e nw cor ne¼ sec.

JEFFERSON DAVIS PARISH—D. C. Gillett, Tr., Tampa, Fla., J. Jeter 1, 27-8s-3w, 2487 ft s and 800 ft w ne cor sec.

NATCHITOCHES PARISH—Saline Bayou Dev. Co., Goldena, Bodcau Lbr. Co. 1, 9-12-5, 330 ft n and e sw cor sec.

SABINE PARISH — Soully Beach, Many LaFitte 2, 12-7n-11w, 165 ft s and 172 ft nw cor sec. The Texas Co., Shreveport, Nabors 2, 2-7n-11w, 576 ft w and 237 ft s ne cor se¼. Service Drlg. & Roy. Corp., Shreveport, Gardner A-3, 12-7n-11w, 200 ft s and 138 ft w ne cor sec. Reeves & McNeely, Many, Sabine Bk. 1, 28-8n-11w, 473 ft n and 483 ft e sw cor se¼ nw¼ sec. States Prod. Co., Shreveport, A. Keazele 1, 3-7n-13w, 150 ft n and w se cor nw¼ sw¼ sec. Clopton & Schoelkopf, Dallas, Texas, Sepulvedo 1, 4-7n-13w, 315 ft e and 185 ft n sw cor se¼ ne¼ sec.

Wildcat Drilling Report

(Wells shut down not included)

BEAUREGARD PARISH—DeRidder Dev. Co.'s McMahon 1, ne nw 33-2s-9w, dr 900 ft.

BIENVILLE PARISH—Black Lake Dev. Co.'s Frank Halston 1, se se 17-18-16, dr shale 1370 ft (corrected depth.)

CADDO PARISH—Jno. W. Moffitt's Cynosure 1, 36-18-15, lcn. Louana O & G Co.'s Cushman 1, sw sw 33-19-16, sp.

CALDWELL PARISH—Carter Bell et al's A. R. Taylor 1, 17-14-4e, sd 3620 ft.

CLAIBORNE PARISH—Loue Oil Co.'s Kinder 1, 2-21-7, owdd, co td 3500 ft.

DE SOTO PARISH—J. M. Bridges' Joiner 1, nw nw 33-11-12, rig. E. T. Oakes's Johnson 1, 30-13-15, core 3693 ft. De Soto Dev. Co.'s Nickie 1, 7-13-12, dk. Donly Bros.' H. Smith 1, 31-14-15, sd for water, 2295 ft. Standard Oil Co. of La.'s Sutherlin 1, se sw 19-12-14, elev 248 ft, 6⅝ cas 2735 ft, tested est 3 mil ft gas at 2784 ft, arr test at 3000 ft, lime and shale. S. A. Guy's Dowling 1, 31-14-14, top chalk 1650 ft, dr 2380 ft.

GRANT PARISH—Security Pet. Corp.'s Swope 1, 16-9-1e, wosr, td 1585 ft. Robichaux et al's Bradford 1, 16-9-1e, rig.

NATCHITOCHES PARISH—Sabine Bayou Dev. Co.'s Bodcaw Lbr. Co. 1, sw sw 9-12-5w, rig. Southland Drilling Co.'s Ross Olive 1, 10-9-10, coring below 2000 ft. Dr. H. S. Gerson's Smith 1, 11-10-8w, sd 1875 ft. Smith 3, 6-10-8w, lcn. H. W. Perritt's Brown Lbr. Co. 2, 29-8-9, dr 2530 ft. Cook 1, 3-8-9, 6⅝ cas 2467 ft, top chalk 2500 ft, sd 2620 ft. Rains et al's Beard 1, 8-8-10, dk. Texana Oil Co.'s Clarke-Morse 1, 23-5-6w, co, td 2504 ft.

RED RIVER PARISH—C. F. Davis' Petroleum 1, sw nw 12-14-11, dk pat. Petroleum Ind., Inc.'s Madden 1, sw ne 21-14-10, sp.

SABINE PARISH—J. J. Kean's Belton 1, 31-9-13, elev 232.7 ft, plugged back to 1743 ft from 3128 ft, bailed dry at 1743 ft, wo, old td 3128 ft (lower Cretaceous). R. L. Gay, Tr.'s Long-Bell A-1, nw nw 10-8-13, core lime and shale 5945 ft. J. H. Askew's Sabine 1, ne nw 9-7-13, tested dry at 2422 ft, sd, wo. Geo. LeGrand's McGowan 1, nw nw 2-8-10, sd 1460 ft. Loring Oil Co.'s Bowman-Hicks 18, 15-7-12, co to 5000 ft, wo baroid, td 5272 ft. King, Tr.'s Davis 1, 29-7-11, lcn. State Prod. Co.'s Davis 1, 17-7-10, 6-in 2638 ft, base chalk 2990 ft, dr 3018 ft, black lime. Davis B-1, 17-7-10, dk. G. E. Jordan's Dew 1, sw se 34-8-11, dk pat. R. E. Davidson's Davis 1, 28-7-11, dk. S. A. Lane et al's De Keyser 1, nw ne 23-7-11, liner recov, tested dry at 2620 ft, sd repr rig, 2650 ft. Supreme Oil Co.'s Pruitt 1, se sw 30-8-11, rig. A. F. Tarver's Stoker 1, 34-8-10, core 2720 ft. Howard Russell's Porter 1, se se 7-7-11, dr 1875 ft. J. H. Reeves' Sabine Bank 1, ne sw 28-8-11, core 2251 ft. A. A. Trammell's Sepulvedo 1, nw ne 5-7-13, dk. J. B. Hughes' Stille 1, 36-8-11, sp 10-in 102 ft, dr 1100 ft. W. S. Smith's Hamilton 1, ne ne 32-8-11, dk. Langford et al's Sabine 1, se ne 8-7-13, dk. Williams & Spiers' Williams 1, 31-8-10, sd 2300 ft. King, Tr.'s Germain 1, 7-7-10, dry wo 2617 ft. Southland Drilling Co.'s Frost Lbr. Co. 1, 13-9-11, coring below 2000 ft. Wurtsbaugh & Terrans' Peterson 1, sw se 26-8-13, dk pat.

VERNON PARISH—Llano Co-op. Colony's Fee 1, nw ne 34-2n-9w, 10-in 50 ft, dr 650 ft.

WINN PARISH—Tex Lloyd's J. B. Milam 1, nw sw 28-13-5, lcn.

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ARKANSAS FIELDS

Two Arkansas Wildcat Completions Are Failures

El Dorado, Ark.—Marine Oil Company during the week ending June 29, abandoned P. Winn Estate A-2, NW NW Section 11-18-13, an east edge test in the Urbana district, Union County, as a salt water hole at 3586 feet.

In northwest Arkansas, William Greesom abandoned Spears 1, Section 9-7-29w, Sebastian County, a wildcat, as a dry hole at 3515 fact.

Fitzwater and associates last week were

still waiting for cement to set in Beck 1, SW SE Section 35-15-26, Miller County, southwest Arkansas, in which seven-inch casing was recently cemented at 2919 feet. Operators reported two feet of sand with an oil show at 2919-20 feet.

Arkansas Field Developments

Completions

Company, Well and Location	Initial Production Bbls.	Depth
SEBASTIAN COUNTY—		
W. M. Greesom, Spears 1, 9-7-29	dry	3515
UNION COUNTY—		
Marine Oil Co., P. Winn Est. A-2, 11-18-13	sw	3586

Wildcat Drilling Report

(Wells shut down not included)

HOT SPRINGS COUNTY—Starr Oil Co.'s Cunningham 1, 11-5-16, sr, td 1340 ft.

LITTLE RIVER COUNTY—Harrell et al's Taafe 1, sw nw 25-12s-32w, dk.

MILLER COUNTY—Fitzwater et al's E. L. Beck 1, sw se 35-15-26, top red beds 2812 ft, claim oil sand 2919-20 ft, 7-in OD cas 2919 ft, td 2920 ft. Noel et al's Dickson 1, 11-20-27, sd while fsh, td 2600 ft.

OUACHITA COUNTY—Copenhaver et al's Berg 1, 13-15-17, wosr, td 2208 ft.

PIKE COUNTY—E. R. Henderson, East 1, 13-9-23, rig.

ST. FRANCIS COUNTY—Field & Jones' F. M. White 1, 1-4n-2e, dr 3114 ft. E. R. Henderson's Britton 1, ne nw 1-4n-1e, dr sandy shale 751 ft.

SCOTT COUNTY—Heavener O & G Co.'s Reser 1, 36-4-26, fsh, td 1436 ft.

WASHINGTON COUNTY—Chase & Rogers' Cunningham 1, sw ne 14-15n-32, dr 1725 ft.

SOUTHEASTERN STATES

Hatchetigbee Anticline Test May Go 4700 Feet

Jackson, Ala.—Tidal Oil Company, Danciger Oil & Refining Company, and Ramsey Petroleum Company's Everett & Boykin 1, NE SE Section 33-6n-2e, Clarke County, Alabama, was still in Tuscaloosa during the last week, drilling below 4331 feet; elevation is 67.4 feet. It is planned to carry this test, which is on the Jackson Fault of the Hatchetigbee Anticline to at least 4500 feet and possibly to 4700 feet.

Two South Alabama Tests Begin Drilling Operations

Mobile, Ala.—Two tests were spudded in Mobile County, a southwest border county of Alabama, during the week ending June 29. Ohio Oil Company spudded Bethel 1, NW SW NE Section 34-3s-2w, which will go to 5500 feet as an immediate goal and later probably to 7000 feet. The equipment on the test is capable of making 10,000 feet. Oil Well Supply Company and National Supply Company are furnishing most of the equipment; the derrick is a 122-foot Parkersburg steel derrick. A regular supply yard has been opened at the test which is 1½ miles north of the town of Whistler, a Mobile suburb. The test is on a 20,000-acre block and was made on the strength of a torsion balance survey. It is an anticlinal fold and not a dome, but is a topographical high about 3½ miles north and south.

J. C. Prine and associates have spudded Mobile & Ohio 1, SE NE SW Section 33-2n-4w, northern Mobile County, near Citronelle, and have cemented 12½-inch surface casing at 240 feet in blue shale.

Southern States Developments

Wildcat Drilling Report

(Wells shut down not included)

MISSISSIPPI

LAMAR COUNTY (Purvis)—Stauffer & Kouri, Tr.'s, Bond 1, se ne 18-2n-14w, dr lime 1647 ft (Vicksburg.)

LOWNDES COUNTY—Lowndes County O & D Co.'s Carr Est. 1, ne nw 34-17-16, base Selma csalk 620 ft, top rock 1855 ft, dr rock 1875 ft.

MONROE COUNTY—P. J. McAlpine et al's Chas. Rye 1, se nw 22-15s-17w, 10-in 580 ft, dr lime rock 740 ft.

STONE COUNTY—Hercules Sulphur Expl. Co.'s Lang 2, sw sw 28-3s-11w, sand 1971-92 ft, setting 6⅝ cas, td 1992 ft.

ALABAMA

CLARKE COUNTY (Jackson)—Tidal Oil

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Co. et al's Everett & Boykin 1, ne se 33-6n-2e, dr 4331 fft (Tuscaloosa.)

LAMAR COUNTY (Vernon)—McAlpine et al's Gardner 1, nw nw 22-15s-16w, dr sandy limestone 2590 ft.

MOBILE COUNTY—Ohio Oil Co.'s Bethel 1, nw sw ne 34-3s-2w, sp. J. C. Prine et al's M. & O. Ry. 1, se ne sw 33-4n-2w, sp, cemtd 12½-in cas 240 ft.

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WASHINGTON COUNTY—South Ala. O & G. Co.'s St. Stephens A-1, 26-7n-1w, dk.

TENNESSEE

CHESTER COUNTY—Gilmore et al's Scott 1, top Eutaw 1045 ft, 8-in 1195 ft, dr 1535 ft.

EASTERN STATES

Eastern States Field Developments

Completions

PENNSYLVANIA

GREENE COUNTY—
J. L. Garard & Co., Greeg 27..... 8 665

TIOGA-WAYNE FIELD—
North Branch Development Co., Murrya 1 ..... ¶3 4223
Wells Corporation, County Farm 1.. * ....
Keefer & Co., Schofield 1..... * 5543

WASHINGTON COUNTY—
Carnegie Natural Gas Co., Chambers 2 ..... ¶1 2800

NEW YORK

WELLSBORO FEILD—
Williamsport Natural Gas Co., Nugent 1 ..... ¶5 ....

WEST VIRGINIA

CALHOUN COUNTY—
Harley Ferrell & Co., Allen 1..... 2 2987

ROANE COUNTY—
Reedy Oil & Gas Co., Guthrie 1.... ¶2 1800

RITCHIE COUNTY—
Wilson Bros., Fee 3 ..... 1 1700

SOUTHEASTERN OHIO

NOBLE COUNTY—
Cain Oil & Gas Co., Mellett Hrs. 10 6 1212
Robert Morgan & Co., Newhart 1.. ¶¼ 1056
Harper Bros. & Co., Moreland 4.... * 1012

WASHINGTON COUNTY—
Chesman Oil & Gas Co., Cox 1.... * 1098
Robinson Bros., Stewart-Axelrod 1.. 15 500

CENTRAL OHIO

LORAIN COUNTY—
McMillan & Co., Klooz 1.....¶1½ 2720

MEDINA COUNTY—
Edson & Co., Shaw 24 ..... 5 308
Frank 39 ..... * 470

NORTHWESTERN OHIO

SENECA COUNTY—
Jones & Coyle, Watson 1..... ¶¼ 1580
Shaw & Co., Kuhn 1 ..... ¶¼ 1600

WYANDOT COUNTY—
Erie Oil & Gas Co., Margroff 1..... ¶¼ 1460
Jones & Coyle, Smalley 1 .....¶¼ & 1 1362

KENTUCKY

DAVIESS COUNTY—
Ellis & Young, Wells 2..... * ....
S. M. Sherman, Salmon 4..... 15 ....
S. A. Weideman, Tanner 2..... 10 ....
Ellis & Ashby, Cooper 3 ..... 40 ....
Cooper 4 ..... 50 ....
Frank Cox & Co., Alsip 2..... * 717
Morrison & Sage, Burton Hrs. 1.... * 1008

HART COUNTY—
Oscar Benton, Craddock 1..... 3 ....
Unknown Parties, Grubbs 1 ..... 50 ....
Bradley 21 ..... 15 ....
Wilkinson 1 ..... * ....
Thompson 1 ..... * ....

MUHLENBERG COUNTY—
Imperial Oil & Gas Products Co., Williams 1 ..... * ....

McLEAN COUNTY—
S. A. Cobb & Co., Northern 1..... * ....

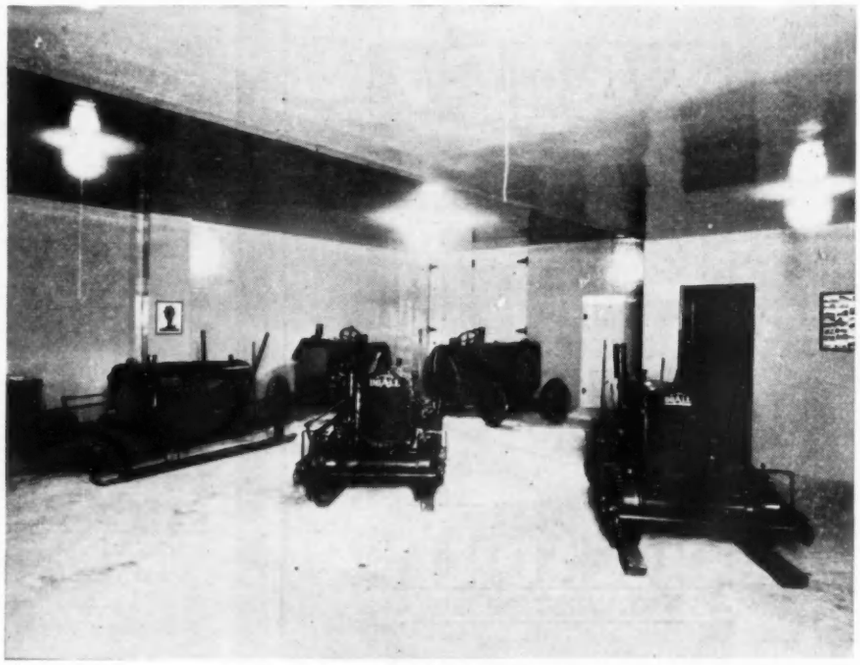
OHIO COUNTY—
Hupp, Duff & Co., Johnson 1..... 30 ....

MICHIGAN

MIDLAND COUNTY—
The Pure Oil Co., Bolen 1..... 600 ....
Talbot Oil Co., Adams 2..... 400 ....
Atha Oil Co., Chemical State Savings Bank 1 ..... * 3800

MUSKEGON COUNTY—
Muskegon Oil Corp. Bard 1..... * ....

NEW SALESROOM FRED E. COOPER



Fred E. Cooper now is located in larger quarters at 211 South Lansing Street, Tulsa, Oklahoma. Mr. Cooper is special winch developer for the Allis-Chalmers Manufacturing Company, tractor division, and formerly had his offices at 18 South Madison, in Tulsa. With the merger of Allis-Chalmers and Advance-Rumely Mr. Cooper's territory is considerably broadened and his line of equipment also has been materially increased.

New Equipment for the Field

MACHINERY - TOOLS CATALOGS - BOOKS

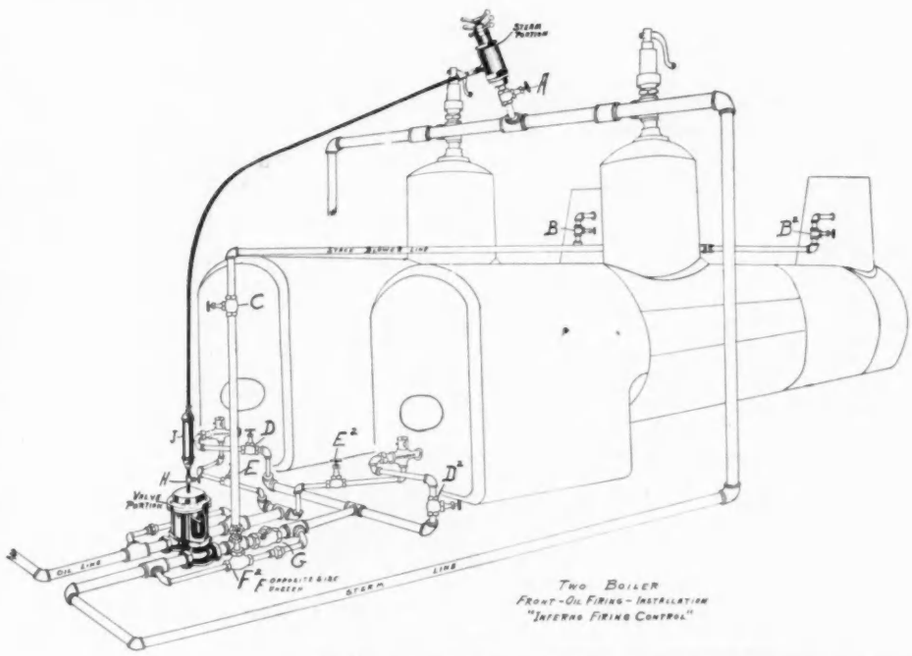
▼ ▼ ▼

1. Firing Control

THE INFERNO COMPANY

The Inferno Company, Shreveport, Louisiana, recently placed on the market a new type of firing control, so designed that a slight adjustment by hand is all that is necessary to change the set pressure or variation.

The blowers are connected up through the controls so t hat they are automatically operated or cut off whenever the main fire to the boilers is cut off. The stacks are cut off short so that when the fires are cut out of the boilers practically all circulation of air through the boilers is also cut off, a feature which the manufacturer claims results in considerable saving of fuel.



Two Boiler Front-Oil Firing-Installation "Inferno Firing Control"

2. Full-Power Engine

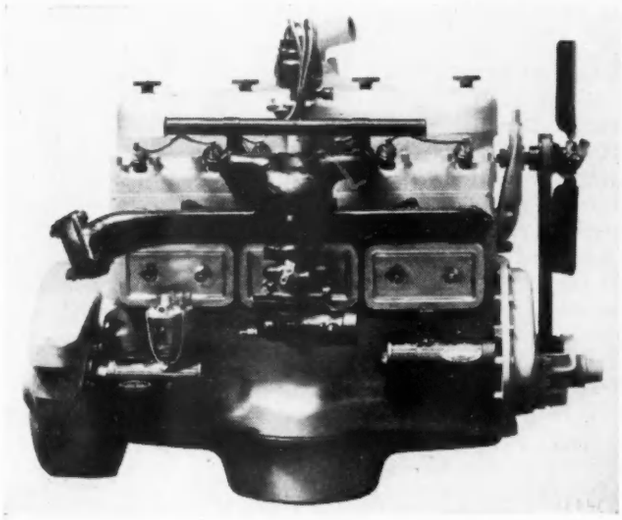
WAUKESHA MOTOR COMPANY

Waukesha Motor Company, Waukesha, Wisconsin, has announced a new line of engines designed for increased efficiency, smoother operation and longer life.

These new engines are more conservatively rated than previous Waukesha products, making it possible for the ordinary user to utilize his engine for all regular requirements without having to draw on the engine for its full capacity.

Improvements in the manifold design make the method of attachment to the cylinders simple and accessible, and permit controlled heat to the intake with either up or downdraft carburetors. New bearing metals of greater durability have been evolved for the new engine. The bearings are integral with the connecting rods and are cast from electrically controlled babbit pots by centrifugal casting machines. Main bearings are made of the same material, bonded to steel backs fitted with great precision into the crankcase bearing seats.

Production is being started, or will be shortly, on three sizes of sixes rated at 90 horsepower, 110 horsepower, and 125 horsepower capacity. A large four is also in production.



Waukesha Engine

3. Boiler Compound

AMERICAN SAND-BANUM COMPANY, INC.

American Sand-Banum Company, Incorporated, 342 Madison Avenue, New York, New York, announces a new boiler compound called Sand-Banum, a prepared concentrate protected by United States and foreign patents.

The manufacturers claim Sand-Banum prevents formation of boiler scale and removes that which had been formed prior to injection of the compound; claim it pre-

— — — — — — *MAIL COUPON* — — — — — —

THE OIL WEEKLY,
Houston, Texas, U. S. A.

Please see that I am supplied, without obligation, additional information on New Equipment Items Nos. _____ described in the July 4, 1932, issue of THE OIL WEEKLY.

Name .....

Company .....

Address .....

KIBELE

BOILER-FEED

PISTONS

Are Giving BETTER Service

Never in our history has our volume of production on these smaller sizes of oil field pistons been so great. There is only one answer . . . SERVICE!

And to give this service we have provided:

1. **PACKINGS** which years of research have enabled us to design and compound so as to resist the elements that we have discovered ordinarily destroy rubber.
2. **STRONG,** sturdy castings of almost unlimited endurance.
3. **A PRICE** that leaves no question of their economy.
4. **REPLACEABLE** packings that make a set of pistons as good as new.

KIBELE

MANUFACTURING COMPANY

SLUSH PUMP PISTONS, OIL FIELD SPECIALTIES, WELL SWABS

KIBELE DOESN'T COST IT EARNS

201 EAST CEVALLOS ST. SAN ANTONIO, TEXAS

SLUSH PUMP PISTONS • WELL SWABS

vents pitting and corrosion of all surface of the boiler which come in contact with water and steam; prevents oil introduced accidentally into the boiler feed water from forming the usual coating which results in overheating; claim the product is equally effective in all territories, regardless of the nature of the scale forming ingredients present in the feed water.

4. Rotameter

SCHUTTE & KOERTING COMPANY

Schutte & Koerting Company, Twelfth and Thompson Streets, Philadelphia, Pennsylvania, announces a rotameter for measuring rates of flow in pipe lines, claiming the instrument to give readings within one per cent of accuracy.

The rotameter is a non-recording instrumemnt designed for showing rates of flow of water, oil, chemicals, gases, or air. It consists of a simple frame on which are the inlet and outlet connections, and on which is mounted a vertical, transparent tube having a tapered bore, the small diameter being at the bottom. Inside the tube is a top-shaped float, held in suspension by the upward flow of the liquid or gas. The annular space between the float and the tube increases as the float is pushed upward by the flow. The position of the float is, theoretically, in direct relation to the rate of flow. The outside of the tube is graduated for flow rate readings.

5. Go-Devil

ALEXANDER ANDERSON

Alexander Anderson of Fullerton, California, has developed a new instrument for measuring inclination of a drilling well.

A special sub or catcher is inserted at the top of the drill collar to receive the go-devil when it reaches the bottom of the drill pipe. It automatically indicates to the driller when it has reached the catcher; the drill pipe must then be held stationary for only two minutes while the apparatus is making a record of inclination; circulation holes are provided to prevent any impediment to circulation through the drill pipe. Two separate permanent records are obtained every time the go-devil is run and when these two records are identical, both plumb bobs must have been at rest leaving no chance for an erroneous reading.

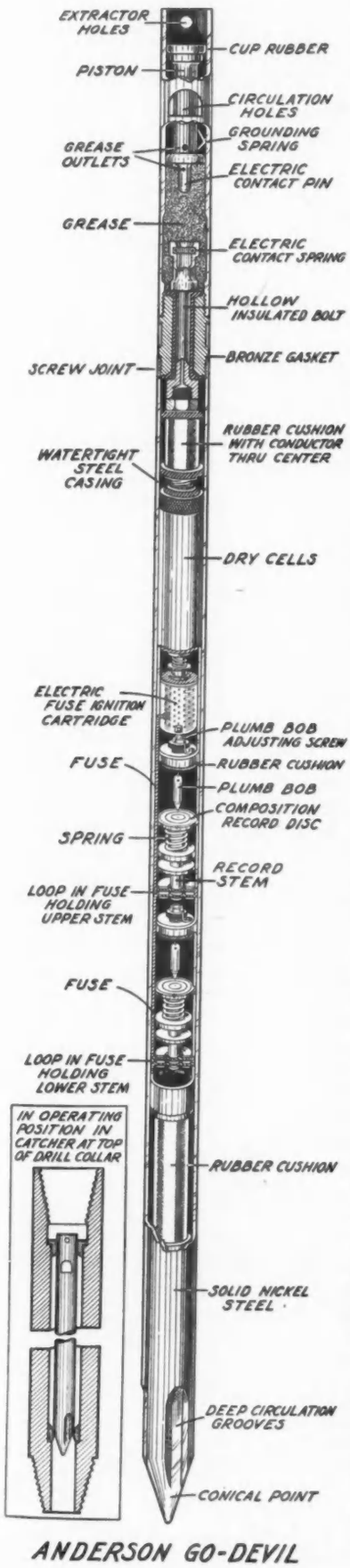
The recording mechanism of the instrument slips inside a watertight casing and is protected by a rubber cushion at each end. This mechanism includes two identical recording units and each unit includes a plumb bob suspended above a circular record disc. Each record disc fits into the top of a holder which resembles a valve with a stem and spring beneath it.

At the top of the recording mechanism there is a chamber for holding two small dry cells. Below this is a clip for retaining an electric fuse ignition cartridge. Within each cartridge is an electric squib with a part of a length of fuse coiled around the squib and the balance of the fuse extending outside the cartridge.

To load the go-devil, the dry cells are put in and the fuse cartridge is snapped into place. The fuse is then passed downwards to the notches in the first record stem where a loop is formed which holds the spring in a compressed position. The fuse is then passed further downward and a second loop is made to retain the lower stem.

A composition record disc, with degree circles, is now placed in each record holder and the recording mechanism is ready to be slipped into the watertight casing. The plug which closes the upper end of the casing carries a hollow upward extension which is open at the top. A piston inside this rests on some heavy grease that is pumped in through a hollow insulated

bolt. The piston has a cup rubber at its upper end and an electric contact pin at its lower end.



ANDERSON GO-DEVIL

To run the go-devil, the Kelly is disconnected and the instrument is dropped into the drill pipe. The Kelly is then connected up and the pump started.

When the apparatus reaches the catcher, the circulation forces the piston down and the resistance offered by the grease below it is sufficient to cause the pump to hesitate for about two seconds. This indicates to the driller that the go-devil has reached the catcher, that the piston has been pushed down and that the circulation holes are open. He then immediately shuts down the pump for two minutes and is then ready to pull the pipe out of the hole.

As the piston is forced down, the grease goes out through the grease outlets and the electric contact pin enters the contact spring on the upper end of the insulated bolt. This completes the electric circuit, fires the squib in the fuse cartridge and lights the fuse. One minute afterwards the loop of fuse holding the spring of the upper record holder in a compressed condition is burned to ash. The spring then immediately snaps the first record disc up against the point of the upper plumb bob. The point of the bob is imbedded in the record disc and the bob is then carried upward until its upper end is embedded in a rubber cushion. The fuse then burns on downward and a half minute later the second loop of fuse is incinerated and the lower record unit operates to make a second identical record of inclination.

HERE'S STRENGTH!

never duplicated before in a pipe wrench

IMPROVED—mightier than ever — TRIMO breaks all records, wins all tests for strength.

Give your TRIMO distributor the opportunity to prove these facts, if there is in any doubt in your mind. For actual tests are proving to the complete satisfaction of the oil industry that the improved and mightier TRIMO wrench is the strongest tool of its kind ever made.

Strengthen your pipe wrench equipment with TRIMO.

TRIMO
Pipe Wrench

Made for half a century by
TRIMONT MFG. CO., Roxbury (Boston), Mass.

NEWS *from the Industry's* EQUIPMENT MAKERS

Keeping in touch with developments with Manufacturers and Supply Dealers

Bridgeport Machine Company in Business 25 Years

Bridgeport Machine Company, Wichita, Kansas, recently celebrated its twenty-fifth anniversary.

From a modest beginning as a small machine shop in Bridgeport, Illinois, the company has expanded its facilities and products until it is one of the leaders in its line, with branch stores and warehouses at strategic points in the oil country. The company's business has grown to be international in scope.

Organized in 1907 by J. A. Woods and E. W. Boyd, the firm set up a machine shop and oil field repair business. As the development in the Bridgeport area in Illinois became more extended the company's customers increased and the manufacturing facilities were enlarged. From 1907 to 1916 the Bridgeport Machine Company continued to expand from its Bridgeport, Illinois, headquarters.

In 1916 new development work in Butler County, Kansas, became more widespread and to Augusta, in that state, came the Bridgeport company, the activity in Illinois having lessened. At Augusta the company further expanded its manufacturing equipment and added to its products through the introduction of new drilling and fishing tools, among them being the Swan underreamer acquired from Dr. Swan of Marietta, Ohio, in 1918. This underreamer has since became one of the best known patented tools in the oil country, domestic and foreign.

While the Bridgeport organization was

A. A. BUSCHOW

carrying on the enlargement program in Augusta, Mr. Woods, then president, had associated with him in the business A. A. Buschow, a banker of that place, who became an executive of the firm. Mr. Buschow has remained with the company since that time and today is president and treasurer, having acquired Mr. Woods' interest recently. In 1922, with the spread of oil activity in all parts of the Mid-Continent, headquarters of the company was moved from Augusta to Wichita, Kansas, where complete manufacturing facilities are maintained for turning out products carrying the Bridgeport trade mark.

In connection with manufacturing and research facilities Bridgeport Machine Company, among other improvements, has perfected the Hychrome process for hardening steel which has enabled the company to turn out drilling and fishing tools of high quality.

With the more active management of the company's business by Mr. Buschow, he was made president of the company, and Mr. Woods became chairman of the board. When Mr. Woods entered the oil producing business on a large scale two years ago he relinquished his interests in Bridgeport Machine Company to Mr. Buschow and his associates.

Neilan Company Opens New Chicago Office

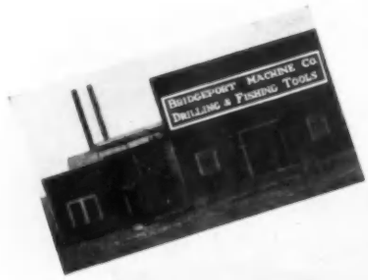
Neilan Company, Limited, Los Angeles, California, announces the opening of a new office at 1525 East Fifty-Third Street, Chicago, Illinois, with Arthur J. Foley in charge of sales and distribution of the company's line of automatic controlling devices for temperature, pressure and flow.

WALTER DAVIS, for the past nine years with Detroit Graphite Company at Tulsa, has resigned to become connected with Arco Company of Cleveland, Ohio. Although he is severing his former connections he will still be connected with his former associates, Phil Maury, now president of Arco Company and formerly vice president and general sales manager of Detroit Graphite Company; and O. N. Edgar, formerly southwestern representative of the same company. Mr. Davis will be manager for the Mid-Continent division with headquarters in the Philcade Building, Tulsa.

At left—The Bridgeport Plant at Augusta, Kansas.

At right—The first Bridgeport shop at Bridgeport, Illinois.

Below—The present Bridgeport plant and general offices at Wichita, Kansas.



Squeaks *from the* BULL WHEEL

"I Like the Depression"

By HENRY ANSLEY
(Amarillo News-Globe, Amarillo, Texas)

I like the depression.

No more prosperity for me.

I have had more fun since the depression started than I ever had in my life. I had forgotten how to live, what it meant to have real friends, what it was like to eat common every-day food. Fact is, I was getting just a little high hat.

Three years ago, only one man of News-Globe organization could be out of town at a time and he had to leave at the last minute and get back as soon as possible. Many times I have driven 100 miles to a banquet, sat through three hours of bunk in order to make a 5-minute speech, then drive the 100 miles back so as to be ready for work the next morning.

Nowadays, as many News-Globe employees as are invited make those trips and we stay as long as we want to. The whole outfit could leave the office now and it wouldn't make any difference.

I like the depression. I have time to visit my friends, to make new ones. Two years ago when I went to a neighboring town, I always stayed at the hotel. Now I go home with my friends, stay all night and enjoy home-cooking. I have even spent the week-end with some of the boys who have been kind enough to invite me.

It's great to drop into a store and feel that you can spend an hour or two or three or a half day just visiting and not feel that you are wasting valuable time. I like the depression.

I am getting acquainted with my neighbors. In the last six months I have become acquainted with folks who have been living next door to me for three years. I am following the Biblical admonition, "Love your neighbors." One of my neighbors has one of the best-looking wives I have ever seen. She is a dandy. I am getting acquainted with my neighbors and learning to love them.

Three years ago, I ordered my clothes from a merchant tailor—two and three suits at a time. All my clothes were good ones. I was always dressed up. But now, I haven't bought a suit in two years. I am mighty proud of my Sunday-go-to-meeting clothes. When I dress up, I am dressed up and I don't mean maybe. I like the depression.

Three years ago I was so busy and my wife was so busy that we didn't see much of each other, consequently we sort of lost interest in each other. I never went home to lunch. About twice a week I went home for dinner—at 6:30 o'clock. I never had time to go anywhere with her. If I did go on a party, I could never locate her since there was always a "blonde" or a "red-head" available I didn't much worry about it.

My wife belonged to all the clubs in town. She even joined the young mother's club. We don't have any children, but she was studying—and between playing bridge and going to clubs, she was never at home.

We got stuck-up and hifalutin. We even took down the old family bed and bought a set of twin beds—on the installment plan.

When I would come home at night, if my wife was at home, she would already be in her bed and I would crawl in mine. If she came in last, it was vice versa.

We like the depression. We have come down off our pedestal and are really living at my house now. The twin beds are stored in the garage and the old family affair is being used. We are enjoying life. Instead of taking a hot water bottle to bed these cold nights, she sticks her heels in my back, just like she did before Hoover was elected.

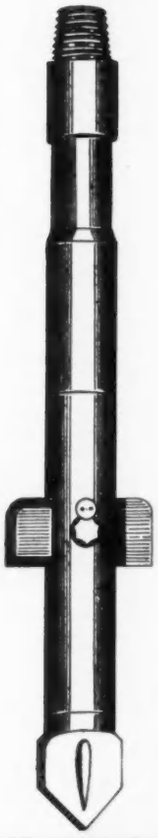
I haven't been out on a party in 18 months: I have lost my book of telephone numbers. My wife has dropped all the clubs. I believe we are falling in love all over again. I am pretty well satisfied with my wife. Think I will keep her, at least until she is forty and then if I feel like I do now, I may trade her for two twenties.

I am feeling better since the depression. I take more exercise, I walk to town and a lot of folks who used to drive Cadillacs are walking with me. I like the depression.

My digestion is better. I haven't been to see a doctor in a year. I can eat anything I want to.

I am getting real, honest-to-goodness food. Three years ago, we had filet mignon once a week, now we have round

CLEAN THE OIL SANDS WITH THE BAKER "WALL SCRAPER"



The Baker Rotary Hydraulic Expansion Wall Scraper is doing "a job" scraping the mud, cement, and other forms of coating from the walls of the oil sands. *This makes it possible to bring in a well much easier and in less time.*

Production is very often increased materially by thoroughly scraping the sands.

Many other equally important uses and advantages are described in a new booklet which is yours for the asking.

The one thing always to remember is that the Baker Wall Scraper is perfectly SAFE to operate at all times, under all conditions.

Write or phone our nearest office.

BAKER OIL TOOLS, Inc.
HUNTINGTON PARK, CALIFORNIA
Coalinga Houston Tulsa New York

Heeter's Packers and Swabs

For over a quarter century the name of C. M. Heeter Sons & Co. has been known to the oil men of America.

Heeter's Improved Patent Swabs, Corrugated Friction Sockets, Wire Line Pumping Outfits, Sand Pumps and other Gas and Oil Well Materials.

May we send you our catalog showing complete line?

C. M. Heeter, Sons & Co. (Inc.)
Main Office and Works, Butler, Pa.

Structure of Typical American Oil Fields

Volumes I and II
(Blue cloth; 9 x 6 inches)

Authoritative geological descriptions of more than 125 oil and gas pools in 19 states: Arkansas, California, Colorado, Illinois, Indiana, Kansas, Kentucky, Louisiana, Michigan, Montana, New Mexico, New York, Ohio, Oklahoma, Pennsylvania, Tennessee, Texas, West Virginia, Wyoming.

Vol. I, 510 pp., 190 illus., postpaid, $7.00

Vol. II, 780 pp., 235 illus., postpaid, $7.00

Stratigraphy of Plains of Southern Alberta	3.00
Theory of Continental Drift	5.00
Monthly Bulletin (per year)	15.00
Index to Bulletin (Vols. I-X)	1.00

AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS
Box 1852, Tulsa, Oklahoma, U. S. A.

steak with flour gravy. Then, we had roast breast of guinea hen, now we are glad to get sow-bosom with the buttons on it.

I like the depression. My salary has been cut to where I can't afford to buy lettuce and spinach and parsley and we can't afford to have sandwiches and frozen desserts and all that dam-foolishness which has killed more good men than the World War.

I like the depression. Three years ago, I never had time to go to church. I played golf-all-day Sunday and besides I was so darned smart that there wasn't a preacher in West Texas who could tell me anything.

Now, I am going to church regularly, never miss a Sunday.

And if this depression keeps on, I will be going to prayer meeting before long.

I like the depression.

Professor: I will use my hat to represent the planet Mars. Is there any question?

Student: Yes; is Mars inhabited?

If you could have two wishes, what would they be?

Well, I'd wish for a husband.

That's one.

And then I'd save the other one 'till I saw how he turned out.

What's the charge against this man?

Stealing nine bottles of beer, your honor.

Discharged; I can't make a case out of nine bottles.

"Hello! Hic! Hello!"

"Hello," returned the operator.

"Hello!"

"Hello!"

"My gosh!" said the gentleman. "How this thing echoes!"

A farmer once asked the editor of a country paper for advice as follows:

"I have a horse that at times appears normal, but at other times is lame to an alarming degree. What shall I do?"

The reply came: "The next time that your horse appears normal, sell him."

Visitor: "Won't you walk as far as the street car with me, Tommy?"

Tommy (aged seven); "I can't."

Visitor: "Why not?"

"Because we're gonna have dinner as soon as you go."

First Inebriate: Shay! Notish how zish floor's wavin' around?

Second: Yeh. Mush be made outa flagshtonesh.

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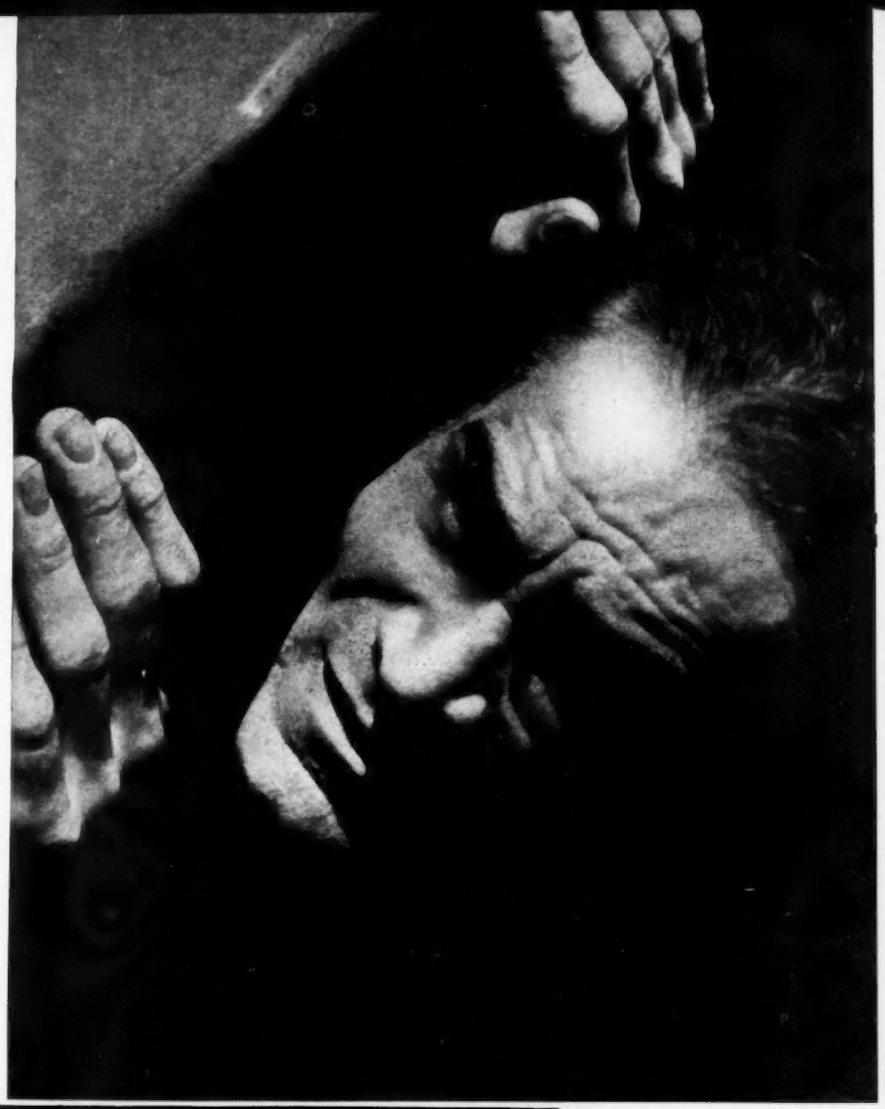
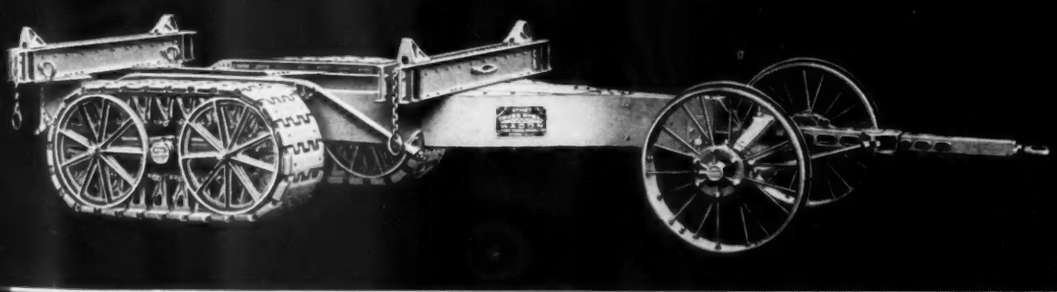
GET OUT
FROM UNDER!



If you're losing time in moving equipment —if "fair weather" methods of hauling are costing you money . . . get out from under! Every day is moving day for Athey Truss Wheel Wagons.

Atheys *keep at it* when other hauling units must stand idle. Atheys are consistently dependable. Hitch them to a tractor, either singly or in train, and they push through sand or "gumbo," climb hills and rocks, with steady *uninterrupted* speed. They do this day after day, year in and year out, at minimum maintenance cost because they are *built for toughest service.*

The new Athey Series 32 Truss Wheels offer you exclusive new engineering features and even GREATER strength and stamina in every part—yet they are LOWER PRICED! Turn NOW to the Athey way of hauling—it's the quickest, cheapest, most satisfactory way.



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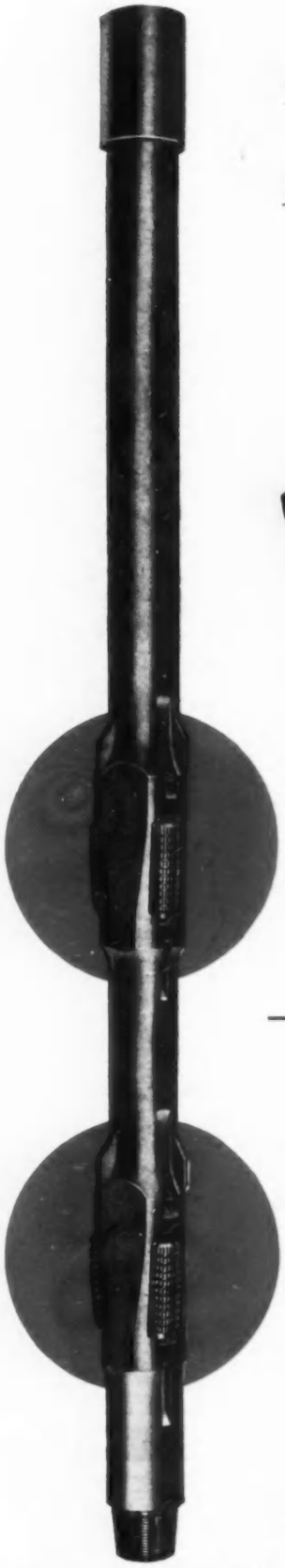

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3 Hughes Point Reamers

—They insure economical operation

—Overshot Neck provides ample room for elevators and slips.

—Upper end of Pin made larger in order to facilitate withdrawal.

—Tapered construction gives large clearance at this point, saving body from wear.

—Wear on Reamer Body is practically eliminated due to ample clearance.

—Reamer Blade faced with "Hughesite" placed above Reamer Cutter to clear passage when coming out of hole.

—Upper and Lower Eccentric Bushing absorbs wear from Reamer Pin and is easily replaced. Eccentric feature affords different size Reamer by bushing change only.

—Tapered Reamer Cutters set at angle provide ample clearance and eliminate wear on Reamer Body.

—Washer which absorbs wear from Lower Bushing.

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